UCJIS
IMPLEMENTATION PLAN

**Unified Criminal Justice Information System
Strategic Alliance Services Request
For the Commonwealth of Kentucky**

Prepared for:

**Commonwealth of Kentucky
Governor's Office for Technology
100 Fair Oaks Lane
Frankfort, Kentucky 40601-1108**

Prepared by:

SAIC Project Team
**8301 Greensboro Drive
Mail Stop E-6-3
McLean, Virginia 22102-3600**

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1.0 EXECUTIVE SUMMARY

In the latter part of 2000, the Commonwealth of Kentucky selected a Project Team, consisting of Science Applications International Corporation (SAIC), PricewaterhouseCoopers (PwC), and Intelligent Document Management Solutions (IDMS), to develop a series of documents to plan the Commonwealth's multi-year evolution to a Unified Criminal Justice Information System (UCJIS). These documents address vision validation, strategic planning, implementation planning, and criminal history project planning. As illustrated in **Exhibit 1-1**, these documents build upon each other providing increasing levels of detail. This document, the UCJIS Implementation Plan, builds upon the Strategic Plan providing a roadmap of specific projects to accomplish the strategic goals, their duration, cost, and sequencing. The implementation plan provides project planners with the guiding parameters necessary for them to accomplish the detailed planning for their specific projects.
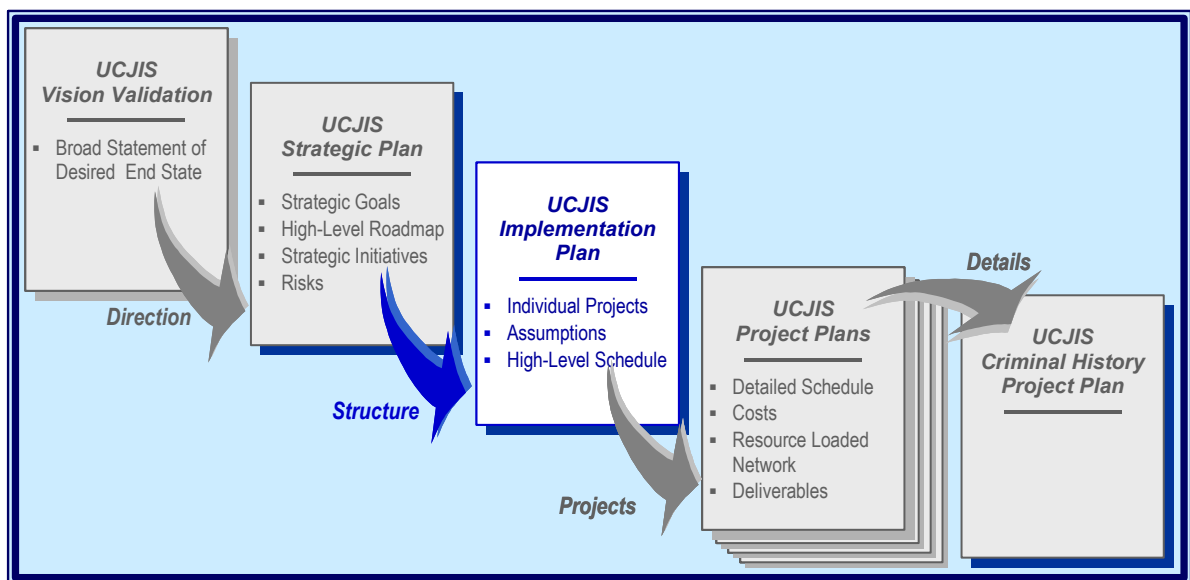
Exhibit 1-1: UCJIS Project Documents

This entire process supports a planning effort begun by the Commonwealth in 1998 and finalized by the Project Team. This resulted in a valid, updated UCJIS Vision (see **Exhibit 1-2**) along with vision objectives and strategic goals (see **Exhibit 1-3**) designed to achieve the Vision.

The UCJIS Implementation Plan narrows the focus to more than 30 projects necessary to achieve the vision. The projects are grouped by the year in which they are expected to commence.

> ### *UCJIS VISION*
>
> *The Commonwealth of Kentucky's Unified Criminal Justice Information System (UCJIS) is a singular, logical, flexible information system for trained justice professionals. It is built upon uniquely identified individuals and events and utilizes the most effective enterprise-wide business process, to electronically capture, and securely and responsibly disseminate, at the earliest opportunity, accurate and complete data in order to increase public safety.*

Exhibit 1-2: UCJIS Vision

1.1 Relationship of Implementation Plan to Other Plans

Each document the Project Team delivers to the Commonwealth is meant to stand on its own merits. However, within the context of the UCJIS Program, each document is related to the others. As third in a series of documents, the Implementation Plan builds upon the environment established in the UCJIS Vision and Strategic Plan, and sets the framework for individual project plans.

1.1.1 Relationship to the UCJIS Strategic Plan

This Implementation Plan is related to the Strategic Plan in that it describes the work effort at the project level. Whereas the Strategic Plan examined the required effort from a high level, the Implementation Plan takes a much closer look at individual projects. Projects are identified by the year in which the project is recommended to start. The Implementation Plan also presents the duration and cost, a description of the work to be done, and the benefits each project achieves.

Exhibit 1-4 shows how major features of the Implementation Plan relate to the Strategic Plan.

Exhibit 1-4: Relationship to the UCJIS Strategic Plan

The UCJIS Strategic Plan…	The UCJIS Implementation Plan…
• Supports the UCJIS Vision through development of six strategic goals	• Supports the six strategic goals by identifying individual work projects
• Describes a strategic architecture	• Builds upon the strategic architecture by identifying individual work projects to implement it
• Provides an "as-is" assessment of the current criminal justice environment in Kentucky	• Shows the steps necessary – in terms of work projects – to move from the "as-is" state to the "to be" state of the UCJIS Vision
• Provides a high-level assessment of program opportunities and risks	• Shows opportunities (benefits) and risks (challenges) for each individual project
• Takes a UCJIS-wide perspective	• Shows how individual projects support various UCJIS agencies

Exhibit 1-4: Relationship to the UCJIS Strategic Plan

The UCJIS Strategic Plan…	The UCJIS Implementation Plan…
• Describes work to be accomplished in terms of functions	• Describes work to be accomplished in terms of individual work projects resource requirements and time phasing
• Addresses need for strategic security plan	• Describes a specific security work project with defined subprojects
• Does not address schedule	• Addresses schedule in terms of individual project duration and identifies the year in which the projects should commence
• Does not address Commonwealth funding requirements	• Addresses Commonwealth funding requirements on a year-by-year basis

1.1.2 Relationship to Project Plans

The Implementation Plan introduces a preliminary view of the individual projects. It describes how projects relate to each other, both functionally and over time, and briefly discusses their scope, content, and benefits to UCJIS. The project plans will identify the details of the project such as work breakdown structure, deliverables, schedule, personnel, and cost. **Exhibit 1-5** shows how various topics would be addressed in a typical project plan versus how they are covered in the Implementation Plan.

The Implementation Plan shows the Commonwealth manager where the project fits into the larger scheme of UCJIS work over several years. It is the project plan, however, that the Commonwealth manager will use to oversee the accomplishment of the work.

Exhibit 1-5: Relationship to Individual Project Plans

The UCJIS Implementation Plan…	The Project Plan…
• Supports the six strategic goals by identifying individual work projects	• Supports one or more of the six strategic goals by defining concrete work packages within a single project built upon a detailed project plan
• Builds upon the strategic architecture by identifying individual work projects to implement it	• May build a component of the strategic architecture or some other UCJIS task in accordance with the architecture
• Shows the steps necessary – in terms of work projects – to achieve the UCJIS Vision	• Provides a fully-resourced work breakdown structure that defines the individual work packages that make up a project
• Shows opportunities (benefits) and risks (challenges) for each individual project	• Provides a risk assessment with specific mitigation strategies for an identified work project
• Shows how individual projects support various UCJIS agencies	• Specifies the exact work to be accomplished in support of one or more UCJIS agencies on the project
• Describes work to be accomplished in terms of individual work projects	• Describes work to be accomplished in terms of individual work activities (e.g., program reviews, software releases, deliverables, etc.)
• Describes a specific security work project with definitized subprojects	• Incorporates security policy and procedures in accordance with the specific requirements of the project and the overall guidelines established in the Strategic Plan
• Addresses schedule in terms of individual project duration and identifies the year in which the projects are to commence	• Provides a project schedule with start dates, duration, dependencies, milestones, and the critical path
• Addresses Commonwealth funding requirements on a year-by-year basis	• Provides cost detail as required by the basic contract; typical cost detail might show labor costs by major subtask, other direct costs, payment milestones, etc.

UCJIS Implementation Plan – Revision 1

1.2   Management

Management is the central hub that links the strategic initiatives and ensures the UCJIS moves towards achieving the Commonwealth's goals. Strong leadership and management in the areas of planning and organization, management of business process evaluation and change, installation of architectures supporting wired and wireless, as well as information sharing architectures, is critical to achieving a minimal level of success in UCJIS. Section 2.0 discusses Management in detail.

1.3   Current Architecture

Section 3.0 describes the infrastructure as it exists today, before the implementation of any projects within the UCJIS project. To develop the current infrastructure assessment, the Project Team used information from interviews with management representatives and operational staff conducted between October 2000 and March 2001. The Project Team also observed ongoing UCJIS activities and reviewed the results of research contained in internal Commonwealth documentation, such as the 1998 meeting notes and *National Center for State Courts: Kentucky Unified Criminal Justice Information System Agency-Level Technology Assessment, July 28, 1998*. This information was subsequently reviewed and validated by the Commonwealth project participants.

1.4   Project Listing

The Project Team has identified more than 30 key projects necessary to implement the Vision Objectives and Strategic Goals. **Exhibit 1-6** through **Exhibit 1-9** lists the projects and targeted start date. The projects are grouped by their proposed start year. Although many of the projects extend beyond that, this grouping provides the reader with a sense of the workflow over time. In addition, these groupings will help the UCJIS agencies in developing their budgets. Section 4.0 discusses each project in detail.

Exhibit 1-6: Implementation Plan Project Matrix – Year 1 Project Starts

Project	Agency(s) Impacted	Duration	Estimated Cost	Plan Section Addressed
Live-Scan Training and Refresher Training	KSP, Jailers	6 months	$75K	4.1.1
Criminal History Records Information System (CHRIS) Screen Auto-Population	KSP	2 months	$100K	4.1.2
State Identification Number (SID) Population	KSP, AOC	-	Grant in place	4.1.3
On-Line Forms	AOC, KSP, DJJ, DOC, Clerks	6 months	$200K	4.1.4
Kentucky Unified Criminal Justice Web Site	All	2 months	$100K	4.1.5
KSP-Application Service Provider (ASP) White Paper	KSP	3 months	$150K	4.1.6
Standard Jail Management System (JMS) Request For Information (RFI)	Jailers	4 months	$200K	4.1.7
Warrants/Summons White Paper	KSP, Jailers, AOC, Clerks	3 months	$150K	4.1.8
Computerized Criminal History – Phase 1	KSP	16 months	$4.7M	4.2.1
Public Safety Wireless Study	All	4 months	$300K	4.2.2
Public Safety Wired Study	All	4 months	$300K	4.2.3
Standard Support Application for Commonwealth's and County Attorneys	UPS	9 months	$325K	4.2.4
Security Program	All	10 months	$600K	4.2.5
Agency Acronyms AOC = Administrative Office of the Courts DOC= Department of Corrections UPS = Unified Prosecutorial System DJJ = Department of Juvenile Justice KSP = Kentucky State Police				

Exhibit 1-7: Implementation Plan Project Matrix – Year 2 Project Starts

Project	Agency(s) Impacted	Duration	Estimated Cost	Plan Section Addressed
Computerized Criminal History – Phase 2	KSP, AOC	10 months	$1.6M	4.3.1
Standard JMS Pilot	Jailers	12 months	$800K	4.3.2
Booking Process and e-Citation Pilot	Jailers	8 months	$425K	4.3.3
Warrants/Summons Pilot	KSP, AOC, Jailers, Clerks	8 months	$350K	4.3.4
Records Management System (RMS) Implementation	KSP	18 months	$12M	4.3.5
Standard DOC System Study	DOC	4 months	$200K	4.3.6
e-Forms	AOC KSP, DJJ, DOC, Clerks	8 months	$350K	4.3.7
Public Safety Wireless Implementation	All	TBD	TBD	4.3.8
Public Safety Wired Implementation	All	TBD	TBD	4.3.9
Commonwealth-Wide Case Management System Pilot	UPS	8 months	$425K	4.3.10

Agency Acronyms

AOC = Administrative Office of the Courts   DOC = Department of Corrections   UPS = Unified Prosecutorial System
DJJ = Department of Juvenile Justice   KSP = Kentucky State Police

Exhibit 1-8: Implementation Plan Project Matrix – Year 3 Project Starts

Project	Agency(s) Impacted	Duration	Estimated Cost	Plan Section Addressed
Computerized Criminal History – Phase 3	KSP, AOC	11 months	$1.7M	4.4.1
Standard JMS Implementation	Jailers	24 months	$6M	4.4.2
Booking Process and e-Citation Implementation	Jailers	24 months	$85K	4.4.3
Computer Aided Dispatch (CAD) Implementation	KSP	16 months	$6M	4.4.4
Mobile Workstation Phase 1	KSP	24 months	$3M	4.4.5
Standard DOC System Pilot	DOC	6 months	$1.75M	4.4.6
Warrants/Summons Implementation	KSP, AOC, Jailers, Clerks	12 months	$500K	4.4.7
Commonwealth-Wide Case Management System Implementation	UPS	12 months	$500K	4.4.8

Agency Acronyms

AOC = Administrative Office of the Courts   KSP = Kentucky State Police   UPS = Unified Prosecutorial System
DOC = Department of Corrections

Exhibit 1-9: Implementation Plan Project Matrix – Year 4 Project Starts

Project	Agency(s) Impacted	Duration	Estimated Cost	Plan Section Addressed
Computerized Criminal History – Phase 4	KSP	2 months	$177K	4.5.1
Common Access (Middleware)	All	24 months	$3.5M	4.5.2
Common Repository	All	24 months	$4M	4.5.3
Computerized Criminal History – Phase 5	KSP, AOC, DOC	9 months	$1.2M	4.5.4
Mobile Workstation Phase 2	KSP	12 months	$50K	4.5.5
Standard DOC System Implementation	DOC	18 months	$9M	4.5.6

Agency Acronyms

AOC = Administrative Office of the Courts   DOC = Department of Corrections   KSP = Kentucky State Police

1.5   Assumptions

An important consideration for the UCJIS project is whether to build a unique system from the ground up or to use commercial technology. This build-versus-buy discussion addresses the issues of

cost, time, and technical risk of development. It is recommended that unless there is a very specific reason for doing so, Commercial-Off-the-Shelf (COTS) equipment and software is the best choice for the UCJIS.

Another critical factor is budget. **Exhibit 1-10** presents the aggregate funding requirements for projects supporting the UCJIS Implementation Plan. The associated costs are shown in the estimated start year regardless of how long that project may take. This approach was taken to assist the UCJIS Program Office in developing its budgetary requirements.

Exhibit 1-10: Funding Requirements by Year

Year 1	Year 2[1]	Year 3	Year 4
$7.2M	$16.2M	$19.5M	$8.9M

Section 5.0 discusses the assumptions used to develop this plan in more detail.

1.6 Schedule

In order to develop the project schedule, the Project Team took a number of items into consideration: the "as-is" environment, the role of the UCJIS agencies, and the resources available. This process produced a schedule that lists the projects by year, shows their duration and their predecessors. In addition, the schedule identifies those projects that must be implemented to realize the UCJIS Vision and accomplish the UCJIS Strategic Goals.

1.7 Conclusion

This Implementation Plan is one of a continuum of planning and implementation documents developed to help put in place an effective, efficient Unified Criminal Justice System for the Commonwealth. It begins the planning phase for a successful UCJIS effort that will benefit the key agencies enrolled in the UCJIS project as well as many others. Eventually, it will encompass agencies such as victim's advocates, Department of Transportation, Cabinet for Families and Children, and other indirect UCJIS agencies.

A significant investment of Commonwealth time and money has been made to support the overall planning process. Interviews, visitations, and information gathering meetings have been held throughout the Commonwealth to build the best UCJIS plan possible. This process, however, is only as beneficial as the management infrastructure allows it to be. No portion of the present criminal justice system is left unaffected significantly by this plan. Changes, and in some cases, major changes to the way business is presently conducted must be made. Each agency is dependent upon the others to make this plan work. It cannot be overemphasized that the governance structure put in place to support UCJIS will be the deciding factor in its success or failure. The UCJIS program must be provided the funding and authority to make the plan a reality.

This high level plan provides the roadmap for implementing the Strategic Plan. It provides a course of action specifically designed to accomplish the Strategic Goals. Using this Implementation Plan as a guide, working through an individual project planning process, a well-led, focused team effort will both accomplish the Strategic Plan and set the Commonwealth apart as a leader in the field of Criminal Justice Information Systems. The UCJIS Vision, first set down in 1998, will be achieved.

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[1] Costs for the Year 2 projects, Public Safety Wireless Implementation and Public Safety Wired Implementation, are dependent on the Year 1 projects, Public Safety Wireless Study and Public Safety Wired Study, respectively, and, thus, have not been included in the total funding requirements for Year 2.

2.0   MANAGEMENT

The Strategic Plan established four initiatives as cornerstones of success for the UCJIS program, as illustrated in. **Exhibit 2-1**. A centralized management approach is considered key to successfully coordinating the activities associated with these initiatives.
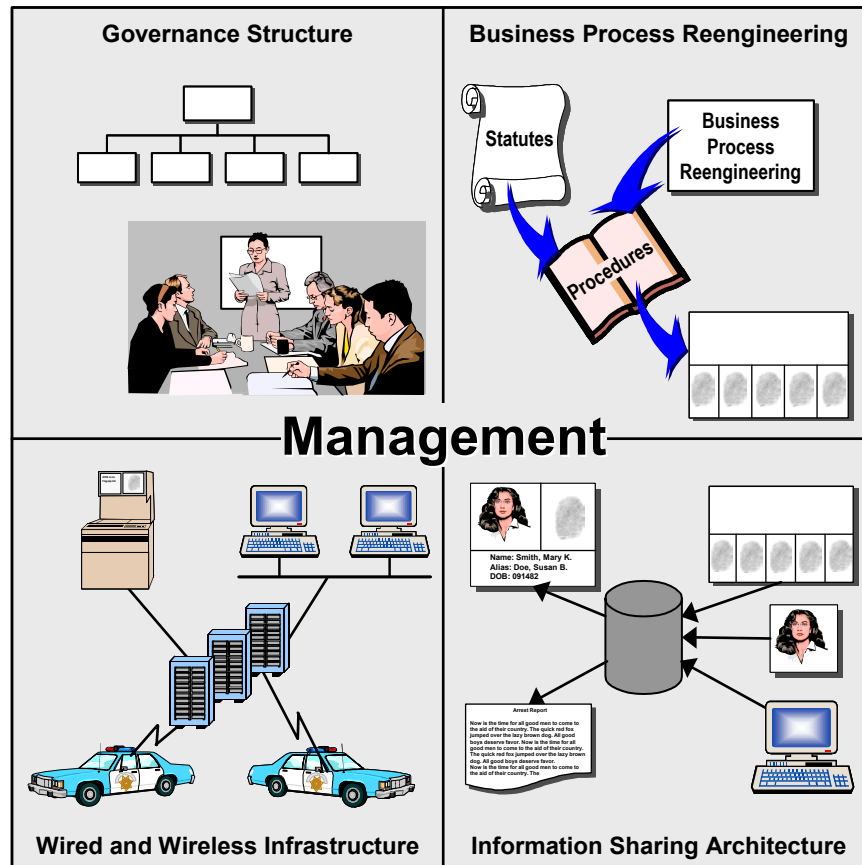
Exhibit 2-1: UCJIS Management Model

This section will focus on the specific functions of the management team. In addition, it will briefly describe a proposed management structure that has proven to be effective for large, complex programs like UCJIS. Finally, it will discuss management functions within the context of seven factors of success for program management. This section is directed at those with line management responsibility, accountable for the hands-on, day-by-day activities of the UCJIS Program.

2.1   Management Organization

As discussed in the UCJIS Strategic Plan, the recommended management organization is the Integrated Product Team (IPT). The IPT organization is widely used in both the public and private sectors for complex programs with many stakeholders. Advantages of the IPT organization are:

1. It can draw upon experts from various customer organizations and the contractor team
2. Customer representatives on the IPT help ensure buy-in and reduce risk
3. Change management becomes an embedded activity rather than an add-on
4. The size and composition of the IPT can vary over time as the program progresses

The recommended UCJIS IPT would draw people from all three branches of state government as well as from its customer base. Rounding out the IPT would be selected members of the contractor technical staff (e.g., lead software engineer, deployment manager, etc.) and the contractor program managers and project leads, as appropriate. Again, the size and composition of the IPT would not be static; rather, it would vary over time as the needs of the UCJIS program dictate.

As a final note on management organization, the UCJIS IPT has a different role than the existing UCJIS Committee or the recommended UCJIS governance office. The committee and governance office provide executive oversight and function much like a board of directors, providing broad guidance and policy direction. Conversely, the UCJIS IPT would have line responsibility; it would function as a program management office with day-to-day responsibility of the overall UCJIS effort.

2.2 The Seven Factors of Success

It is a tenet of project management that no single factor can guarantee project success, but the lack of a single factor can virtually guarantee project failure. The seven factors presented in **Exhibit 2-2** have been shown to be critical for successful project completion. Likewise, they have been shown to be key elements of project failure when they are absent or ignored.

The functions of management derive directly from these seven factors of success, which are discussed in the following sections.

> **THE SEVEN FACTORS OF SUCCESS**
> 1. *Personnel Quality and Availability*
> 2. *Technical Baseline and Systems Engineering*
> 3. *Schedule and Cost Baseline*
> 4. *Contract Management*
> 5. *Risk Management*
> 6. *Communication*
> 7. *Efficiency*

Exhibit 2-2: Seven Factors of Success

2.2.1 Personnel Quality and Availability

Personnel quality and availability has been shown to be the most critical of the seven success factors; with it a project will likely succeed; without it a project cannot succeed and will likely fail. Thus, one of the first priorities of the management team is to identify its personnel needs, find the right people to meet those needs, get them assigned to the program, and make sure they are available when and where needed throughout the life of the program.

Specific management functions include:

- *Size the Team* – After determining the size of the job the management team must determine the size of the team necessary to do the job. This is not a trivial task, and management must be willing to adjust its staff as the program progresses and its requirements become better known. An improperly sized team will drain energy and resources and can imperil the program.

- *Write Job Descriptions* – Management must devote the time and energy to write job descriptions that are tailored to the job to be done. It is not possible to get the right people until the question, "Right for what?" can be answered. Well-written job descriptions help managers hire the right people in the first place, and they help managers fairly evaluate their people for purposes of promotion, bonuses, and the like over the long run.

- *Be Selective* – A major challenge for the Commonwealth will be staffing the UCJIS Program with the right people. UCJIS is a high-visibility program in Kentucky and it is inevitable that some marginal people will try to join the UCJIS Program with an eye to what the program

can do for them versus what they can do for the program. Another typical problem is that not all Commonwealth agencies will support the UCJIS Program with the same vigor. Those who give the program only mediocre support will assign mediocre people to it. Here, the tendency is to assign the "most available" person to the program instead of the "best available." The UCJIS Program Manager must be cognizant of this and "hire" his team members. Key people should be formally interviewed before being accepted on the team.

- *Insist on Personnel Availability* – Not every team member can be available full time, especially in an IPT environment where most of the members are "on loan" to the IPT from their home organizations. Managers must ensure that the team members will be available when and where needed. It is recommended that the Commonwealth develop memoranda of understanding (MOU) or interagency agreements that spell out the "who, what, when, and where" in terms of support to the UCJIS Program. This proactive management activity will preclude many problems over the life of the program.

- *Provide Training* – Even the most qualified people require periodic training to refresh their skills. Management must make the commitment in terms of time and resources to make training available for their people and to make their people available to receive training.

- *Retain the Best; Lose the Rest* – Managers must initiate programs to retain their best people. Recognition programs, awards, bonuses, promotion opportunities, and job enrichment are all elements of an effective retention strategy aimed at keeping good people on the program. Likewise, managers must take positive action to remove disruptive or under-performing people from their program. This is never pleasant and is often time consuming, but it must be done for the health of the program. The UCJIS Program Manager should write into his interagency agreements or Memorandums of Understanding (MOUs) the conditions under which an individual can be involuntarily returned to his or her home organization to minimize the obstacles to this type of personnel action.

2.2.2   Technical Baseline and Systems Engineering

All work on a program flows from the technical baseline. The technical baseline includes well-defined requirements, a concept of operations (often the Project Plan), applicable reference documents and data, the system architecture, and policies or procedures (or statutes) that bound the work. Systems engineering is the process that transforms the needs into a validated system solution. Specific management functions include:

- *Write and Distribute a Statement of Work (SOW)* – Managers must ensure that the SOW is comprehensive enough to cover the work required. An incomplete or poorly written SOW serves no one well. Then, the SOW must be made available to everyone involved in the program so that each person knows how his or her work fits into the grand scheme of things. This is especially important for the UCJIS Program where the work will frequently cross agency boundaries.

- *Document Requirements* – All requirements must be documented and validated before they are committed to the technical baseline. All affected Commonwealth agencies should have a hand in developing the requirements. This is primarily because every requirement has a dollar cost associated with it, and it is critical that all affected agencies agree to the requirement list so they have some ownership of both the requirements and their associated costs. Management should commit to purchasing a COTS requirements management tool and hiring a well-qualified requirements manager as a key person on the IPT.

- *Gather Applicable Documents and Data* – Management should establish a technical library (either physically or on line) for easy reference by the team.

2.2.3 Schedule and Cost Baseline

The schedule and cost baseline can be separate or combined, but either way, they must be consistent. The schedule and cost baseline is the original, approved plan for all activities required to complete the work as defined in the SOW. This baseline forms the basis against which project performance is measured. Specific management functions include:

- *Develop a Comprehensive Resource Loaded Network (RLN)* – The RLN is the basis for the schedule and cost baseline. It shows what is to be done, when, and by whom. It breaks the work down into subtasks that map to the work breakdown structure (WBS). There are numerous COTS scheduling tools available, and management should commit to purchasing one and hiring a qualified project controller to perform this function.

- *Publish the Schedule* – The schedule must be published and progress against the schedule must be tracked. The UCJIS IPT must hold all players, Commonwealth and contractor alike, accountable for adherence to the schedule.

- *Manage to the Variances* – The IPT project controller will compute schedule and cost variances to track the health of the program. Managers must understand the significance of these variances and take the necessary actions to eliminate them.

- *Update the Baseline* – As projects evolve the schedule and cost baseline can become so far removed from reality that it is impossible to use it as a management tool. When that happens management must "rebaseline" the project. Rebaselining is an admission that things have not gone according to plan, but it is an essential step if management is to recover from adversity and move the project forward. This is a critical issue for the UCJIS Program because rebaselining a project often means the funding stream will be affected as well. Moving UCJIS funding from one fiscal year to another can have statutory implications that will require close coordination between the UCJIS IPT and the UCJIS governance office or committee.

2.2.4 Contract Management

Contract management is the process by which the contract is negotiated, compliance is tracked, changes are approved, and the work products or services are accepted. Specific management functions include:

- *Get the Right Kind of Help* – Contract management is a highly technical field that requires people with specialized training. The IPT must have a strong contract manager who is well versed in the business and legal aspects of contract negotiation, management, and closeout. In the case of the UCJIS IPT, the contract manager would work closely with Commonwealth purchasing agents and the UCJIS support contractor business office personnel.

- *Develop a Contract Compliance Matrix* – The contract compliance matrix is essentially a checklist of contract requirements. All contract requirements are listed along with their due date, responsible person or agency, and status. The IPT must track contract compliance and make it a subject of discussion at regularly scheduled program reviews. This is a basic fiduciary duty of the UCJIS Program Manager.

- *Get Changes in Writing* – The IPT must ensure that all contract changes are formally reviewed and approved – often through the use of a Change Control Board or an Engineering Review Board – and committed to writing. Those who have approval authority for contract changes must be so designated. Once the contract is changed, a copy of the change must be

distributed, as appropriate. This formal process is time consuming and often cumbersome, but it protects the Commonwealth, its customers, and the UCJIS contractors.

2.2.5   Risk Management

All but the simplest projects have some risk and it is the function of the IPT to identify and manage project risk. Risk typically falls under the headings of technical, schedule, cost, or contract (Terms and Conditions). All risks, regardless of source, impact the project and merit management action.

The UCJIS Program typically uses firm fixed price (FFP) task orders. FFP task orders transfer the risk to the performing contractor; thus, it would be tempting for the Commonwealth to delegate risk management to the contractors since they are the ones who bear the risk. This would be irresponsible. The contractors take out risk insurance in the form of higher prices charged to the Commonwealth. The UCJIS IPT must protect its investment by actively working with the contractor team to manage program risk. Specific management functions include:

- *Develop a Risk Assessment Matrix (RAM)* – The first management function is to identify the risks of the project. Each risk is assigned a probability of occurrence and mitigating actions are developed to lessen the impact on the project if the risk materializes. These form the basis of the RAM. The RAM can also include estimated dollar costs to the project if the risk occurs and identify the costs of the mitigating actions. This helps management to assess the overall cost impact of risk and keys them as to which risk factors need extra management attention.

- *Manage the Risk* – As the project progresses through its lifecycle the risks change. Some will fall out of the RAM simply through the passage of time or the meeting of a project milestone. Others become more likely to occur because of some previous event. Management must continually update the RAM to be sure it reflects current conditions. New risks must be added as they are identified and risks that did not occur should be dropped from the RAM. As events unfold and certain risk factors become more likely, management must step up its mitigation efforts.

2.2.6   Communication

Communication involves effectively managing the flow of information, both internal and external to the IPT. Proper management of communications is essential to detect project problems early, identify issues and concerns, articulate corrective actions, manage expectations, and implement strategies for future activities. Specific management functions include:

- *Develop a Communications Matrix* – Formal communications must be controlled. The IPT managers should develop a communications matrix that depicts who in each organization is responsible for communicating with the other. The matrix should identify the frequency of the communication (weekly, monthly, etc.) and the mode (office visit, phone call, written report, etc.). A thoughtfully developed communications matrix is a powerful management tool.

- *Control Press Releases and Public Announcements* – The UCJIS IPT must protect the Commonwealth by establishing formal procedures for the preparation and release of UCJIS-related press releases and public announcements.

- *Make Meetings Meaningful* – Meetings should be controlled by management in terms of their frequency, attendance, duration, and outcomes. To the extent possible, managers should insist that meetings be scheduled in advance, that agendas be developed and distributed beforehand, that they start and end on time, that only those necessary are in attendance, and that some form of minutes are prepared and distributed. Ad hoc meetings should be discouraged

because they are generally wasteful of people's time and are usually disruptive to people's schedules.

- *Follow Up* – Managers should adopt the practice of following up important written communications with a phone call, and following up important phone calls with a written letter, note, or memo.

- *Keep People Informed* – The UCJIS management team must keep its people informed. Appropriate communications media might include newsletters, bulletin boards, staff meetings, all-hands meetings, a program web site, broadcast e-mail messages, and the like. The important thing is the message, not the medium.

- *Communicate in a Timely Manner* – Generally speaking sooner is better than later and more is better than less. Managers need to keep the communications channels open. Frequent, or big, surprises often indicate that communications are ineffective and bare room for improvement.

- *Praise in Public; Chastise in Private* – The most effective communications are personal communications, but if they are mishandled, they can be very divisive and detrimental to the health of the program. Managers should take every opportunity to praise their people in a public forum; this builds morale and fosters loyalty. Likewise, when people deserve some chastisement or discipline, this should be done in private. Managers should also follow up these oral communications with a written note or letter.

2.2.7   Efficiency

Efficiency is not a factor of success, per se; rather, it is an indicator of the overall health of the organization. If management finds that the organization is running efficiently, it is a good indication that the other six success factors are present. If, however, there are persistent signs of inefficiency it indicates that one or more of the other six success factors are missing. Management must act accordingly. Specific management functions include:

- *Establish Performance Metrics* – Management should develop some metrics that are meaningful for their program. These can be as simple as measuring the rate of employee turnover to as complex as measuring the amount of unused bandwidth over a communications spectrum over time. The important features of performance metrics are relevance and timeliness.

- *Keep Metrics in Perspective* – It is easy to focus on metrics because they are quantifiable, but management should resist the temptation to do so. Metrics are only a barometer, an indicator of some underlying condition. Management should focus its efforts at identifying what the underlying condition is and direct its attention there.

3.0   CURRENT ENVIRONMENT

A working knowledge of the current UCJIS environment provides the foundation on which to base improvement activities. An "as-is" assessment was conducted to provide that planning baseline. To develop this assessment, the Project Team used information obtained from interviews with management representatives and operational staff conducted between October 2000 and March 2001. The Project Team also researched available internal Commonwealth documentation such as the 1998 meeting notes, *National Center for State Courts: Kentucky Unified Criminal Justice Information System Agency-Level Technology Assessment July 28, 1998*. This information was subsequently reviewed and validated by the Commonwealth project participants.

The Project Team's research included the following participating justice agencies:
- Administrative Office of the Courts/Clerks/Pretrial Services
- Department of Corrections
- Department of Juvenile Justice
- Jailers
- Kentucky State Police
- Office of the Attorney General/Commonwealth's and County Attorneys
- Victims' Advocates

Exhibit 3-1 provides a brief description of the full assessment.

Exhibit 3-1: Summary of the As-Is Assessment *(Multiple Pages)*

System or Process	Function	As-Is Assessment
Network Infrastructure		
Overview	Provides information technology and telecommunications systems and services to Commonwealth of Kentucky citizens and government agencies	• Wired backbone infrastructure provided by BellSouth in partnership with Qwest Communications and various other local exchange carriers • Serves public schools, universities, state agencies, area development district, local governments, and libraries • Supports voice, video, and data connectivity • Dedicated network access at 56KB and 1.544MB
Administrative Office of the Courts		
CourtNET	Provides court case tracking, consolidating local court information systems, including KY Courts, and provide a statewide system for accessing statistical data	• Runs on a S 390 IBM 9672 RA2 mainframe • Capacity is 30,000+ users • 1,000 active users • Can support 6,000 concurrent users • Migration to client-server environment mid-2001 • Limited interagency information sharing • Connected via AOC-managed frame relay network
KY Courts	County specific stand-alone electronic case management system that tracks all information related to court cases	• Consists of networked personal computers (PCs) in each county • Several users at each location • Feeds data to CourtNET • Limited interagency information sharing • Maintains bench warrants

Exhibit 3-1: Summary of the As-Is Assessment *(Multiple Pages)*

System or Process	Function	As-Is Assessment
Department of Corrections		
Kentucky Inmate Management System (KIMS)	Provides for the management of the day-to-day activity of inmates at the institutional level	• AS400-based system • 14 KIMS databases: one in each of the 12 institutions, one shared by two private institutions, and one in the Central Office at DOC • Data is input manually • Each institution transmits data to the AS-400 machine at the Central Office • No interfaces to other systems
Offender Records Information and Operations Network (ORION)	Tracks inmate records and status once the inmate is sentenced and incarcerated	• Character-based mainframe system located on the Governor's Office for Technology (GOT) wide area network (WAN) • Programmed in COBOL with an IMS hierarchical database • Links to Kentucky Offender Online Lookup (KOOL) • Data is input manually
Probation Parole Case Management System (PPCMS)	Tracks the activities and requirements of released inmates	• Client-server system that runs on NT Servers at 14 Probation and Parole district offices • Data is input manually
Department of Juvenile Justice		
Juvenile Offender Record Information (JORI)	Case management system that tracks juvenile offenders through the juvenile criminal justice system	• 2-tier client-server system operating on an NT server • JORI Users are connect via local area networks (LANs) over fiber optic cable to the state backbone system • Currently in the deployment phase with 200 users (projected 600 users with a capacity of 750,000 users) • Data input and dissemination is labor intensive and relies on hard copies of documentation
Jails		
JMS	Tracks information about inmates (demographics, health, fingerprints, etc.)	• All JMS are stand-alone systems and are isolated from other counties • The Law Enforcement Management System (LEMS) and the Sheriffs Office Maintenance System (SOMS) are the two most commonly used JMS • Lack of interfaces with Automated Fingerprint Identification System (AFIS) leads to redundant information gathering effort
Office of the Attorney General, Commonwealth's Attorneys, and County Attorneys		
Case Management	Provides for case management for Office of the Attorney General (OAG) attorneys, the 56 Commonwealth's Attorneys, and the 120 County Attorneys	• No standardized case management exists in Kentucky • Case management consists of locally developed software applications and hard-copy documentation • The Prosecutors Advisory Council (PAC) is currently studying procurement of a COTS case management system

Exhibit 3-1: Summary of the As-Is Assessment *(Multiple Pages)*

System or Process	Function	As-Is Assessment
Kentucky State Police		
CHRIS	Serves as the Commonwealth's criminal history repository for both fingerprint-supported and non-fingerprint-supported criminal record information	• Resides on an IBM 9021 mainframe • Data is stored on an IMS hierarchical database platform and users can access CHRIS through Law Enforcement Information Network of Kentucky (LINK) for querying purposes or directly through a terminal for record creation and updates • Hardware and software provided by GOT but KSP owns the data

AFIS	Provides for the capture, storage, and search of fingerprint information.
	• Primary purpose:
	  » Determine if an individual has a prior arrest history
	• Ancillary purposes:
	  » Permit the elimination of known individuals (e.g., police officers) from an investigation
	  » Compare arrested individuals to the latent print database
		• Information is fed to AFIS through Printrak's proprietary system (DEC UNIX workstation with graphic user interface (GUI)) generally called live-scan units
		• AFIS uses a Sybase relational database
		• 83 jails have live-scan units; KSP has 11 more units for distribution to jails
		• Fingerprints are assigned a SID
		• Demographic data is added to the fingerprint file and it is archived
		• New fingerprints are sent to the FBI and compared against the Integrated Automated Fingerprint Identification System (IAFIS)
		• Once entered in AFIS, all fingerprint data can be retrieved via a fingerprint search
		• No links with current JMS or AOC systems

LINK	Provides a law enforcement communications network that provides access to state and federal systems, including state hot files	• System resides on the IBM 9021 mainframe at GOT • System uses both a DB2 relational and IMS hierarchical database • Connectivity to other systems and networks is provided through the state message switch
Sex Offender Registry and Tracking	Provides a Sexual Offender registry (SOR) to track current and historical information on sex offenders	• System resides on IBM 9021 mainframe (IMS DBMS) and NT Server (SQL Server DBMS) at GOT • Information is entered by the DOC or the Department of Parole and Probation (DPP) • SOR information mandated by federal and state laws • Two SOR databases; due to be merged onto the NT Server
Uniform Crime Reporting (UCR) Information Storage and Retrieval	Provides a means to store and retrieve crime and other investigative data from the field	• Uses a Microsoft Access database that resides on an NT server • Statistical reports are incomplete due to a lack in uniform National Incident-Based Reporting System (NIBRS) reporting across the Commonwealth

Another way to capture the As-Is State is through use of a flow chart that depicts the major players in the Commonwealth and the process flows among them, as shown in **Exhibit 3-2**.
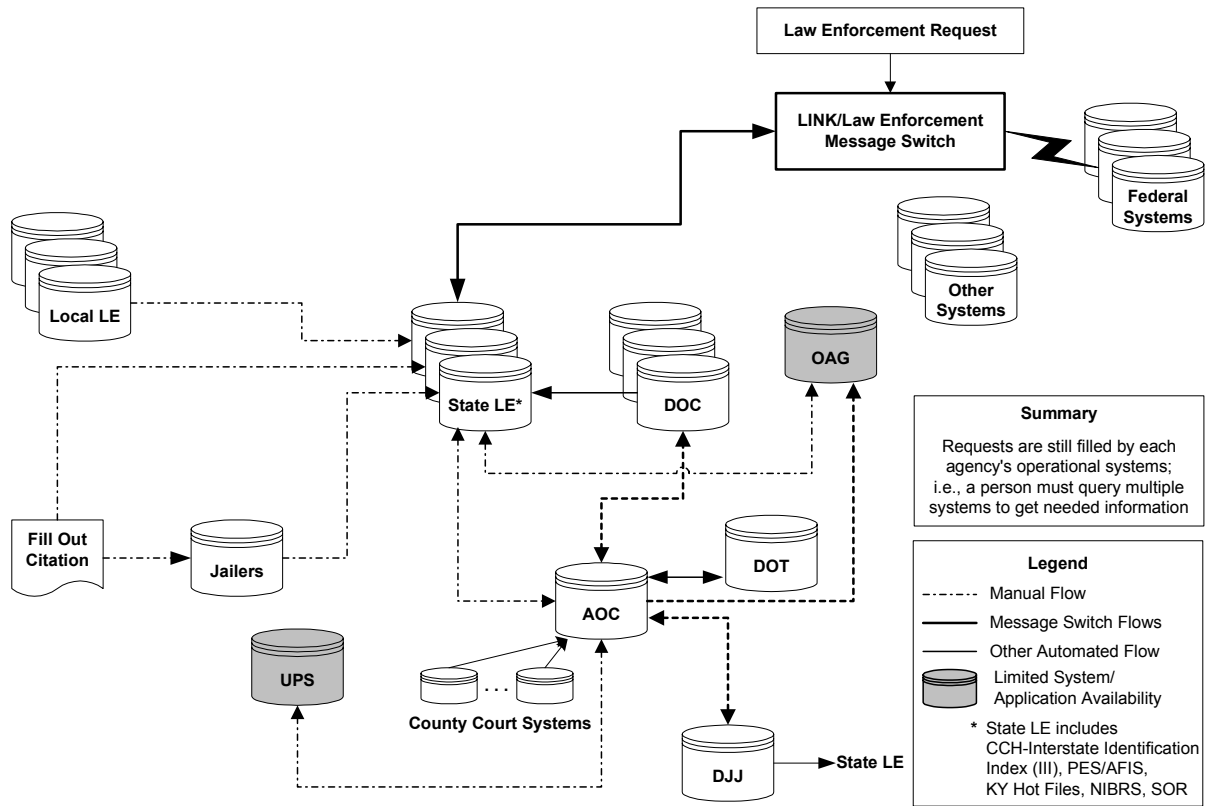

Exhibit 3-2: UCJIS Current Architecture

4.0   PROJECT DESCRIPTIONS

This section of the Implementation Plan presents specific projects the Team has identified to achieve the UCJIS Strategic Goals. The projects cover the full life cycle of the UCJIS development and implementation effort. Some focus on information technology infrastructure and systems architecture; and still others address training, studies, and software application procurement and installation issues.

These projects range from low effort (and low cost) high impact "quick win" projects, to highly complex, longer-term efforts requiring a significant commitment of human and capital resources. These recommendations were developed in the course of stakeholder interviews, site visits, internal document reviews, and independent research.

In the following sections, the first set of projects address quick wins with remaining projects arranged by the year of their start. At the discretion of UCJIS program management, some projects could begin prior to the designated start year. Predecessor activities do not necessarily have to be complete for a project to commence. Similarly, many projects will extend beyond their starting year. However, this grouping provides a sense of the workflow over time. In addition, these groupings help the UCJIS agencies develop their budgets since projects must be budgeted for and, at least, partially funded in their starting year.

Unless otherwise noted, it is assumed that an independent Contractor implements each project described below. Each project is estimated as a standalone project. Impacts of a project on other systems will need to be analyzed as part of the detailed project plans. Additionally, impacts of combining projects under a single project management umbrella will need to be evaluated as part of the detailed project plans.

In the following sections, each project is described, including:

- *Duration* – Includes the time from project award to final delivery; the time for Request for Proposal preparation, response, or evaluation is not included
- *Benefits* – Lists the benefits the project will achieve within each agency
- *Dependency* – Identifies any dependencies this project has on other projects or events; the dependency project must be implemented prior to implementation of the referenced project
- *Cost* – Estimated project cost; Commonwealth program management and project management costs are not included in the estimated project cost. However, Contractor project management costs are included
- *Challenges* – Challenges to successful implementation of the project
- *Basis of Estimate* – Basis for estimated project cost and duration

4.1   Quick Wins

Quick Win projects are those that can be completed in six months or less. They are considered quick wins because they are of high impact and provide solutions to simplify the work efforts of the employees, or to assist agencies in taking greater advantage of automation, which in many cases already exists.

4.1.1   Live-Scan Training and Refresher Training

Currently, the quality of electronic fingerprint capture is inconsistent throughout the Commonwealth. A significant part of the problem is operator unfamiliarity with the live-scan equipment itself. The

Booking Process White Paper[2] recommended that fingerprinting be administered by the jailers as part of the booking process. To improve this process, the Commonwealth should mandate and provide funding for training and refresher training for live-scan technology for the booking officers on the jailer staff. Following initial training, these officers should act as training agents for their jails and provide training to new employees as the need arises. This quick win is an integral part of a booking process change management plan. Live-scan technology is a major step forward in criminal identification and should be exploited to its fullest at every opportunity. It provides the opportunity to increase both the quality and quantity of biometrics data in the form of digital fingerprints available to the criminal justice system.

Duration	• 6 months	
Benefits	*KSP* • Increase the quantity and quality of digital fingerprints captured • Lowers future user support costs	*Jailers* • Training is personalized to local needs • Faster identification of offenders • Lays foundation for future booking process enhancements
Dependency	• Installation of live-scan machine at jail	
Cost	• $75K for initial training • $75K allocated yearly for refresher training (cost should be re-evaluated yearly based on previous years costs and current needs)	
Challenges	• Cooperation • Up-to-date training (initial, on-going) • Availability of KSP/AFIS trainers	• Statutory issues • Maintaining training schedule • Change management and cultural shifts
Basis of Estimate	• Two KSP/AFIS Trainers, 83 jails, 4 jails per week	

4.1.2   CHRIS Screen Auto-Population

One of the strategic goals is to reduce redundancy in data capture. A small, but meaningful step in that direction is to develop a PC-based application that will copy initial arrest information into CHRIS. The result will be a major reduction in the number of keystrokes required to do data entry. The data entry operator is required only to confirm data in fields that have been auto-populated and either accept or correct the information. The text files used to auto-populate the CHRIS screens could originate from one of two sources, depending on resource availability:

- Computerized Criminal History (CCH) text files that AFIS is currently creating but purging periodically due to disk space constraints; these files already match the arrest data to the SID

- An AOC-created extract of the initial arrest information that currently does not exist; it is dependent on the AOC database having the SID number

Duration	• 2 months
Benefits	*KSP* • More accurate data, reduction in data entry and backlog • Use of an AOC-created file positions criminal history for automatic feed from AOC to KSP CHRIS for arrest data and disposition data
Dependency	• None
Cost	• $100K
Challenges	• Establishing an agreement to share information (use of the AFIS-generated text file may be a more timely option) • Developing a cost-effective mechanism for sharing data
Basis of Estimate	• Consultant experience on similar sized projects

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[2] Delivered by the Project Team in January 2001.

4.1.3   SID Population

Use of the SID, as a unique identifier for criminal history data, will be a major step forward in simplifying the entire process when new individuals are introduced into the system. There exists, however, a need to apply the SID to legacy AOC records, to allow cross-system identification of offenders using the preferred unique identifier. This project will require:

- An analysis to determine the matching criteria and method for applying the SID to existing AOC records

- A programming effort to automate the application of the SID for a large percentage of the records

- A manual effort by AOC staff to apply the SID to those records whose match could not be automated

Duration	• Implementation is dependent on AOC time allowances	
Benefits	*AOC* • Biometrically supported identification on fingerprint cards	*KSP* • Matching dispositions for accurate criminal history • Positioning for future data conversion of criminal history data
Dependency	• Availability of CHRIS data from KSP	
Cost	• Covered by grant	
Challenges	• Interagency cooperation • Availability of AOC resources	
Basis of Estimate	• Not applicable	

4.1.4   On-Line Forms

The Commonwealth has identified a requirement to move toward a paperless environment. A major part of this effort would be the generation of standard forms that reside in electronic form on a server, a client workstation, or in an enterprise database. These forms could be retrieved, filed, and transferred electronically. The industry term for such forms is "e-forms."

A logical first step is the development of a repository of electronic forms that are accessible on line to the user. The forms would be created in Portable Document Format (PDF) format. The user would then download the form to a printer and fill it out by hand. This is the first half of the e-forms solution in that it would eliminate the requirement to keep large quantities of standard blank forms on hand. The only paper copies of forms would be those filled out by the user.

The Project Team recommends a short-duration project be initiated in support of AOC. The Team recommends AOC because they are already developing some e-forms capability and have stated their strong desire to build electronic versions of their standard forms for on-line access. This straightforward, quick win project would be a lead-in to a subsequent project to develop full e-forms capability. The full capability would include the second half of the e-forms solution, i.e., allowing the user to fill out the standard forms electronically and transfer or file the completed form in its electronic format, thus eliminating the paper form altogether.

Although the immediate benefit of this project would be at AOC, lessons learned could be applied to implementations of like projects by other agencies. Additionally, other agencies may be able to reuse the AOC software and tailor to meet specific agency business needs.

Duration	• 6 months	
Benefits	*AOC* • Eliminates the need to keep large quantities of paper forms on hand • When standard forms are revised there is no requirement to dispose of large quantities of unused, "old version" paper forms • Easier access to information by users, including court employees, support staff, judges, attorneys, and the public • Serves as a practical first step toward creating a complete e-forms environment	*KSP, DJJ, DOC, Other Agencies* • Lessons learned facilitates implementation of like project for other agencies • Potentially reuse AOC software and tailor to match agency business rules
Dependency	• None	
Cost	• $200K	
Challenges	• Changes in policy and procedures • User resistance to a new way of doing business • On-line forms must be available to all users at all times	
Basis of Estimate	• Consultant estimate based on similar sized projects	

4.1.5 Kentucky Unified Criminal Justice Web Site

Currently, there is no single source for UCJIS related information available in the Commonwealth. However, Kentucky has an Official State Government Web Site (www.kydirect.net) and has recently launched a site specifically for Commonwealth employees (http://kyemployee.state.ky.us/). These two sites offer volumes of information for anyone having an interest in Kentucky. In addition, KYDirect contains an easily trackable method to add or updates links to the site. These sites are excellent bases from which to launch a UCJIS web site and tie it in to other Commonwealth specific Web-based information sources. The UCJIS site should contain links to member agencies' web sites, information on agency progress, success stories, and the answers to frequently asked questions (FAQs). Additionally, this site could contain Commonwealth-wide and agency specific bulletin boards to facilitate communications and information distribution. This suggestion is a part of an enterprise-wide change management plan.

Duration	• 2 months
Benefits	*All Agencies* • Gives stakeholders a central repository for UCJIS efforts • Provokes thinking on UCJIS-wide issues both internally and externally • Increases Commonwealth-wide communications and information distribution
Dependency	• GOT web server resources
Cost	• $100K
Challenges	• Create an authentic UCJIS message that is fully bought into by member stakeholders – UCJIS agencies must "own" the site • Maintenance of up-to-date materials
Basis of Estimate	• Consultant estimate based on similar sized projects • Basic UCJIS web page with links to agency sites

4.1.6 KSP-ASP White Paper

Currently KSP is in the process of obtaining a RMS and a CAD System for use by KSP Patrol Officers. Many local jurisdictions in the Commonwealth, however, do not have the funding to obtain state of the art systems to support their public safety needs. The purpose of the white paper is to identify the issues and opportunities associated with offering a KSP-sponsored regionally deployed multi-jurisdictional RMS and CAD capability for use by local law enforcement.

Duration	• 3 months	
Benefits	*Local Law Enforcement* • Lays groundwork for obtaining RMS and CAD for use by local law enforcement	*KSP* • Lays groundwork for flexibility of architecture implementation for RMS and CAD
Dependency	• None	
Cost	• $150K	
Challenges	• Availability of personnel for requirements analysis • Gaining consensus	
Basis of Estimate	• Consultant estimate based on similar sized projects	

4.1.7   Standard JMS RFI

Currently, within the Commonwealth there exist two main JMS applications, LEMS and SOMS. In addition to these, jailers often manage their inmates using manual processes or a series of homegrown or ad-hoc applications (e.g., Access Databases, Microsoft Word and Microsoft Excel files). Although individually each of these solutions is not an issue, the multiple, unique, and independent systems and processes increases the complexity and difficulty in moving to a UCJIS environment. In order to move forward toward a UCJIS, the multitude of JMS applications in place should be reduced to a standard system that meets the requirements of the greatest number of jailers. This standard JMS should be linkable to all jailers and enable information sharing among all levels of the criminal justice system. An RFI should be generated to solicit from vendors a variety of solutions for this problem, consistent with Kentucky's unique needs. The RFIs should be evaluated and a small number (two to three) of products selected for demonstration.

Duration	• 4 months
Benefits	*Jailers* • Involvement in initial data gathering ensures needs are met • Lays groundwork for common application to link to UCJIS • Lays groundwork for simplifying information sharing among jails
Dependency	• None
Cost	• $200K
Challenges	• User buy-in • Availability of personnel for requirements gathering
Basis of Estimate	• Consultant estimate based on similar sized projects

4.1.8   Warrants/Summons White Paper

A White Paper should be developed to recommend a process to the Commonwealth that will simplify, organize, and provide a tracking mechanism for warrants. The creation and processing of warrants and summons has been noted consistently as a difficult and time-consuming process. It is often difficult to get warrants authorized, delivered to the serving law enforcement agency, and served to the subject of the warrant. The institution of an automated warrant/summons system would allow those involved with these documents to create, authorize (sign), and serve warrants and summons in a more automated and controlled manner. The white paper should be the result of interviews with affected officials and research into warrant processes in other states. It should also make a recommendation on a pilot program to test the recommended processes.

Duration	• 3 months
Benefits	*KSP, AOC, Jailers, UPS, Clerks* • Lays groundwork for pilot and rollout • Consistency in data gathering
Dependency	• None
Cost	• $150K
Challenges	• Warrants ownership • Acceptance of technology • Acceptance of Electronic Signature process • Lack of common architecture throughout the Commonwealth to facilitate full implementation
Basis of Estimate	• Consultant estimate based on similar sized projects

4.2   Year 1 Project Starts

Year 1 projects lay the groundwork necessary to build a larger UCJIS framework. The first year aims to stabilize the environment by beginning key data gathering and clean up as well as initiating priority projects. These projects should be initiated immediately to build momentum.

4.2.1   Computerized Criminal History – Phase 1

The CCH Phase 1 will serve as a starting point for replacing CHRIS. Phase 1 will focus on the reengineering of current functionality to current technology with improvements such as data accessibility and data entry. This phase will reduce the response time on searches, provide increased "up" time for the system, and reduce the manual labor required to process rap sheets.

Duration	• 16 months (refer to the UCJIS Criminal History Project Plan for more information)	
Benefits	*Local Law Enforcement, KSP* • More timely and complete criminal history reports • Increased up-time for criminal history	*KSP* • Reduction of manual processes through process automation, reducing backlogs and resulting in a more efficient process • Support for easier access to data for analysis via Relational Database Management System (RDBMS) • Improved data entry screens • More timely employment background checks
Dependency	• Multiple tasks should be occurring in parallel including SID Population and auto population of SID on the CHRIS screen	
Cost	• $4.7M	
Challenges	• Aggressive schedule • Availability of Commonwealth resources for definition of requirements, participation in data conversion, and training • Timely agreement on Interface Control Documents (ICDs) among interfacing agencies • Training • Cultural shifts	
Basis of Estimate	• Bottoms-up estimate based on similar projects in other states; see Criminal History Project Plan (CHPP) for additional information; includes hardware, software, and labor	

4.2.2   Public Safety Wireless Study

Currently, GOT has a project underway to develop a Commonwealth of Kentucky Wireless Data and Voice Strategic Plan. Planned activities include the identification of the as-is wireless situation, definition and verification of the envisioned wireless infrastructure, development of a Gap Analysis, and utilization of that data along with external factors, such as emerging technologies, to produce the Wireless Data and Voice Strategic Plan. The wireless data infrastructure is particularly important to law enforcement, as it will enable wireless dispatch, mobile reporting, and National Crime Information Center (NCIC)/LINK queries directly from a mobile computing device without the

necessity of voice traffic via the dispatch/communications center. This approach provides more timely and reliable information to the officer on patrol, not only enhancing officer safety but also giving the officer access to information to improve the quality of incident reporting.

Duration	• 4 months
Benefits	*Public Safety Officials* • Understand limitations/strengths of wireless data communication within the Commonwealth
Dependency	• None
Cost	• $300K
Challenges	• Totality of data gathering effort
Basis of Estimate	• Consultant estimate based on similar sized projects (example, Florida)

4.2.3   Public Safety Wired Study

A critical component of the UCJIS architecture is a robust wired infrastructure to care for the movement and management of information. Public Safety places unique seven days per week, 24-hours per day demands on this information infrastructure. The purpose of this study is to identify emerging technologies that offer Quality of Service (QoS) offerings utilizing technologies such as Multi-Protocol Label Switching (MPLS) across the TCP/IP enabled Kentucky Information Highway (KIH). Additionally, the study should address the feasibility of establishing a Commonwealth-wide Internet Service Provider (ISP) capability. This offering, coupled with Virtual Private Networking (VPN), would extend secure wired communications to remote agencies not large enough for dedicated connections to the KIH.

Duration	• 4 months
Benefits	*Public Safety Officials* • Understand limitations/strengths of various Quality of Service offerings and their applicability to meet the communication within the Commonwealth
Dependency	• None
Cost	• $300K
Challenges	• Totality of data gathering effort
Basis of Estimate	• Consultant estimate based on similar sized projects

4.2.4   Standard Support Application for Commonwealth's and County Attorneys

Commonwealth's and County Attorneys presently do not have a standard method for case management. While the ultimate solution is a Commonwealth-Wide Case Management System (see Year 2 and Year 3 projects), a temporary technical solution can help enhance the present process significantly and set the stage for the future. This project starts the office on the path from filing cabinets and index cards to the first phase of electronic storage, automated reports, and integrated schedules. The process would entail streamlined requirements development, vendor and package selection, custom integration and implementation, and change management.

Duration	• 9 months
Benefits	*UPS* • Improve the accuracy of the data • Position attorneys for the future case management system • Increase the timeliness of distribution of information • Facilitate information sharing within the office
Dependency	• None
Cost	• $325K
Challenges	• Use of software once in place • Training • Software updates • Lack of standard processes within each office • Lack of LAN capabilities within the offices and limited KIH connectivity • Does not provide Commonwealth-wide integration • Complacency with "stop-gap" application and not moving forward with full case management system project
Basis of Estimate	• Cost of COTS office suite for 75% of locations, application development, training, and installation costs for consultants • Assume that 25% of locations already have tools in place • Deploy at 3 locations per week

4.2.5   Security Program

Confidentiality, integrity, and availability of electronic data are at higher risk today than ever before. More complex levels of technology, an increasing number of attacks both internally and externally, and the increasing sophistication of computer literate persons makes the challenge of securing any system extremely difficult, although essential task. The need for an information security program is evident. The Project Team recommends a project to establish the groundwork for an effective security program in Year 1.

The project's first step would be development of a vision statement that reflects the strong commitment of upper management to a sound security program. After the security vision statement is developed, the UCJIS Security Policy should be developed and published. This policy would reflect the policy applicability, its administration, responsibilities of management, data owners and receivers, users; the employment of passwords and their use, disaster recovery and contingency planning should be covered at a minimum. Additionally, an organizational chart should be provided outlining the security organization, players, and their responsibilities. Lastly, a method of system certification and accreditation should be recommended to enable users to upgrade/modify the system as needed and provide a methodology to maintain the integrity of the system at the same time

As a next step, plans must be put in place to provide management to the overall system and the people who will be exposed to it. These plans will provide the framework for the administration of the security organization and specific direction regarding training, system certification, and accreditation.

- Develop a Security Organization Action Plan to consist of the positions to be filled within the IT Security Organization, the roles and responsibilities of each, reporting requirements and the establishment of a Configuration Control Board to track system configuration and changes thereto

- Develop a Security Training Plan to provide direction on both Operational training requirements for those working with the system and security awareness training for those peripherally associated with it

- Develop a Certification and Accreditation Action Plan to address requirements for immediate and recurrent certification and accreditation; periodicity of recertification, frequency of

security plan review, frequency of security policy review and provide a security testing methodology

Prior to building a realistic security program, the baseline system security posture must be determined. This should be accomplished within the context of management, operational and technical controls as discussed in the Strategic Plan and provided to the Commonwealth in the form of a Security/Risk Assessment Report. This report should outline system vulnerabilities either on the system as it exists, or within a planned system. The current system functionality, the operation of the IT environment, and practices and procedures currently in use, the corporate culture and the threats and vulnerabilities currently in existence as well as those anticipated must be evaluated. Self-assessment can be accomplished using a variety of techniques to include documentation reviews, penetration testing, and analysis to determine system weaknesses. A list of known or anticipated threats to the system should be developed at the same time and overlaid on the self-assessment to produce the risk assessment. Risks to the system, once identified, should be prioritized to reflect their seriousness and probability of occurrence. A cost/benefit analysis should be done and a recommendation made concerning the manner in which or the degree to which the risks will be alleviated or accepted, with rationale for the recommendation included.

Once the baseline security risk analysis is accomplished, the development of an effective security plan package can begin.

- Develop the Security Plan. This plan should consider the life cycles of all systems and perform planning activities consistent with the findings of the security/risk assessment. It should be flexible enough to provide direction/guidance for systems in development. The plan must address the three areas of management, operational and technical control/security, as was the risk assessment. Each function has its own unique security concerns and responsibilities and only through a coordinated planning effort, including all three can a quality security plan be written.

- Develop a Contingency Plan. A contingency plan is developed to provide the best possible recovery capability in the event that security measures were not effective and some loss of capability or data has occurred. One of the values of a contingency plan is that planning has taken place before the contingency event; therefore, valuable recovery time is not lost in planning after the fact. The plan should be a series of "action" statements related to system recovery and should not concentrate on disaster events to the detriment of planning for less-than-catastrophic occurrences.

Duration	• 10 months
Benefits	*All* • Upper management commitment to system security • Thorough policy direction on how to maintain system security • Identifiable risks to the system with recommended countering including cost to counter
Dependency	• None
Cost	• $600K
Challenges	• Agency buy-in • Change management
Basis of Estimate	• Consultant estimate based on similar sized projects

Exhibit 4-1 shows the impact of Quick Wins and Year 1 projects on the current UCJIS architecture.
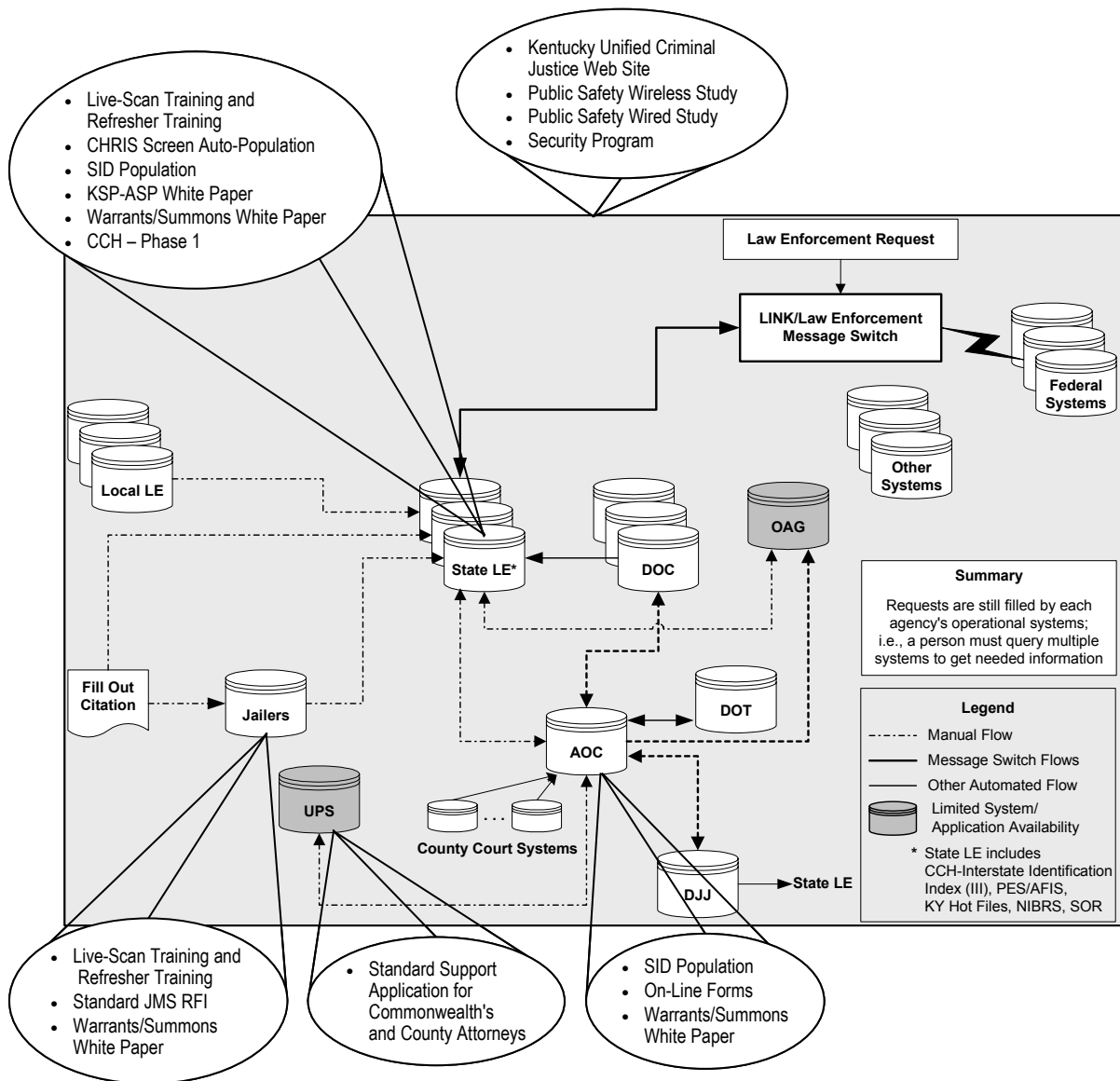
Exhibit 4-1: Year 1 Architecture

4.3 Year 2 Project Starts

Year 2 begins a pilot phase for those projects established in Year 1 through studies or white papers. Projects begun during this year focus primarily on the criminal history and offender management processes. The Commonwealth must build and expand on the achievements of Year 1.

4.3.1 Computerized Criminal History – Phase 2

This phase will add an electronic interface to the AFIS via the Printrak Enterprise Services (PES), interface between AOC and CCH, along with Interstate Identification Index (III) participation. With III participation, the Commonwealth will assume national responsibility for the accuracy and dissemination of Commonwealth derived criminal history data. Although software will be needed to process the new III messages, the bulk of this III task is expected to be in the areas of record synchronization development and III acceptance testing.

Duration	• 10 months • Task overlaps with CCH – Phase 1 deployment	
Benefits	*KSP* • Increased record control in all aspects • III compliant • Sets the Commonwealth up for participation in the National Fingerprint File and thus a reduction in manual processes related to mailing fingerprint cards to the FBI	*KSP, Local Law Enforcement* • Improved fingerprint search hits • More complete and accurate rap sheets (dispositions) *KSP, AOC* • Automates manual processes (e.g., obtaining FBI number from abstract), freeing up KSP resources for other tasks
Dependency	• Phase 1	
Cost	• $1.6M	
Challenges	• Year 2003 deadline before fines are levied for non-III participation • Availability of Commonwealth resources for definition of requirements, training for III tape synchronization, and III Acceptance Testing, and implementation of state-side of interfaces • Availability of message switch staff to modify the message switch to support the new III messages • Timely agreement on ICDs among interfacing agencies	
Basis of Estimate	• Bottoms-up estimate based on similar projects in other states; see CHPP for additional information	

4.3.2   Standard JMS Pilot

Consistent with the recommendation in the Booking Process White Paper, a pilot program should be adopted using a standard JMS for the Commonwealth. This pilot program should use two diverse jails (different size and inmate intake) to test and evaluate each potential solution to determine an acceptable, Commonwealth-wide solution. For maximum synergy, this pilot program and the Booking Process Pilot should be piloted at the same jails.

Duration	• 12 months
Benefits	*Jailers* • Validate JMS requirements
Dependency	• JMS and pilot site selection
Cost	• $800K
Challenges	• Buy-in to single JMS by all jails
Basis of Estimate	• Software licenses, installation activities, data conversion training and process validation • Assume that up to four systems will be evaluated; each system would take 2 to 3 months for data gathering • Assume four systems – LEMS, SOMS, and two other vendor products

4.3.3   Booking Process and e-Citation Pilot

The Project Team recommended that the booking process be jailer-centric and occur entirely at the jail. The offender is booked at the jail. The arresting officer is responsible for completing the citation, which must be done before the citation data can be entered into the JMS. The jailer-centric process uses jail staff to take the electronic fingerprints using the live-scan/AFIS at the jail. The data entered from the citation into the PC (e-Citation) is transmitted to the JMS and live-scan/AFIS system. This could be accomplished via direct interface before the jail clerks assume responsibility for the suspect. The Booking Process Pilot entails piloting the system at two detention facilities. It is recommended that the facilities chosen represent diversity in size based on number beds and inmate intake, with one facility being of small size and the other facility of medium to large size. It is also recommended that the facilities be the same as those participating in the Standardized JMS pilot project.

Duration	• 8 months
Benefits	*Jailers* • Validate booking process and identify improvements • Reduces redundant data entry at pilot facility • Reduces booking process time – returning personnel to other functions sooner • Test e-Citation to JMS/AFIS interface
Dependency	• PES Implementation for AFIS interface
Cost	• $425K
Challenges	• Training, Jailer, and Law Enforcement buy in for process changes • Data entry into e-Citation terminal
Basis of Estimate	• Consultant estimate based on similar sized projects • Costs are shared with JMS Pilot *Note:* This estimate does not include cost for purchase of PES

4.3.4 Warrants/Summons Pilot

After the Warrants/Summons White Paper is delivered and evaluated, a pilot program should be initiated. This will allow the Commonwealth to examine alternatives and work out process and technology issues. In order to keep initial costs down, the warrants and summons system could be implemented as a local, stand-alone application to allow law enforcement agencies, jailers and other criminal justice agencies to search for local and state-wide open warrants and summons. This allows for the refinement of application with lower cost impact before moving into the data sharing architecture.

Duration	• 8 months
Benefits	*Jailers, KSP, Local Law Enforcement, AOC, Clerks* • Validate warrants process • Gather usage data for server and communications sizing • Reduce backlog • Timely warrant service
Dependency	• Warrants/Summons White Paper
Cost	• $350K
Challenges	• Buy in for warrants process and responsibilities • Lack of common architecture throughout the Commonwealth to facilitate full implementation
Basis of Estimate	• LINK based solution based on existing architecture; reuse KSP warrants server • Access terminal hardware not included

4.3.5 RMS Implementation

The purpose of this project is to select and install a COTS RMS, capable of being used Commonwealth-wide. To reduce integration activities in the future, it is desirable that the RMS be part of a Public Safety Suite including CAD and mobile workstation subsystems. In order to ensure that the same vendor supplies all three components, the initial competition should include all three components, although the RMS would be the only one initially funded. The CAD and mobile workstation should be bid as options that could be funded by the Commonwealth at a later date.

By design, the RMS becomes the over arching data repository for local incidents, crime reports, investigations, and the source for crime management reporting. A RMS provides law enforcement officials and associated agencies with information indexed by multiple values including the names of individuals involved in incidents, incident dates, an individual's license numbers, vehicle license plate numbers, incident addresses, accident report numbers, and more. The RMS becomes the repository of closed incident data fed from the CAD system. This incident data often becomes the basis of crime reports and forms the core of case management activities. Furthermore, the RMS can provide links to

NCIC and other external information sources in order to automatically provide crime data such as stolen property, stolen vehicles, wants and warrants to the NCIC, National Law Enforcement Telecommunications System (NLETS), and other jurisdictions. The RMS becomes an invaluable investigative tool, performing searches and gathering case information.

Duration	• 18 months (could extend to 24 months depending on data conversion activities and business process changes)
Benefits	*KSP, Local Law Enforcement* • Allows dispatcher or officer access to data • Readily available information • Ability to manage case as it flows through local jurisdiction • Data storage for CAD system • Data feed for mobile units
Dependency	• None – it is recommended, however that this project await the completion of the major phases of the CCH system since many points of contact within KSP will be fully occupied with the successful implementation of the CCH
Cost	• $12M (price could vary depending on conversion activities, interface complexity and number of software licenses required)
Challenges	• Requires process reengineering • Data clean-up • Seamless connection to multiple client solutions • Training
Basis of Estimate	• Consultant estimate based on similar sized projects • Software licenses, installation services, data conversion and training

4.3.6 Standard DOC System Study

Currently, the Department of Corrections utilizes two systems, KIMS (manages day to day inmate activity) and ORION (offender record management). Supporting two disparate systems adds to maintenance costs and complicates DOC processes. The purpose of this study is to identify an integrated set of DOC requirements and solicit input from various vendors on their ability to meet the Commonwealths needs for an efficient, integrated DOC support system. The study should result in the selection of two to three vendors to demonstrate their products for possible piloting at a Correction's facility.

Duration	• 4 months
Benefits	*DOC* • Involvement in initial data gathering ensures needs are met • Lays groundwork for common application to link to UCJIS • Lays groundwork for simplifying information sharing among correction facilities and jails
Dependency	• None
Cost	• $200K
Challenges	• User buy-in • Availability of personnel for requirements gathering
Basis of Estimate	• Consultant estimate based on similar sized projects

4.3.7 e-Forms

As a follow-on to the quick-win project to place AOC standard forms on line, the Project Team recommends that another short-duration project be initiated to complete the e-forms solution for AOC. In addition to the capability to stockpile and retrieve electronic versions of blank, standard forms, this project would allow the user to fill out the standard form on line and then transfer or file the completed form in its electronic format, as necessary. Upon completion of this project, AOC will be able to eliminate the use of standard paper forms, except for those forms that already exist in files and historical archives.

Several courts and government agencies have already begun to realize the benefits of the e-forms environment. Some have replaced their paper-based filing systems with electronic filing systems that allow pleadings to be filed over the Internet. Some systems also allow parties to access their case files and the court's docket over the Internet. These systems facilitate interactions with the courts and allow attorneys and courts to recognize significant cost savings. It is this electronic transfer of authenticated forms through secure networks, and the resulting dollar savings, that is the chief advantage of e-forms.

A significant by-product of e-forms is the ability to virtually eliminate the storage, transfer, and filing of paper forms and documents. Electronic filing in an e-forms environment eliminates costly storage of forms and documents, vastly improves multiple user access to documents, improves security, eases management, and docketing tasks, and frees up time for all users.

Although the immediate benefit of this project would be at AOC, lessons learned could be applied to implementations of like projects by other agencies. Additionally, other agencies may be able to reuse the AOC software and tailor to meet specific business needs.

Duration	• 8 months	
Benefits	*AOC* • Simplifies court documentation by allowing for standardized processes for retrieving, transferring, and filing court documents • e-forms (paperless) is less costly in terms of user time, physical storage, and initial dollar outlays for paper products • Reduces copying and transcription errors • Facilitates access to and sharing of court documents for all court participants	*KSP, DJJ, DOC, Other Agencies* • Lessons learned available for similar project(s) within other agencies
Dependency	• Online Forms project	
Cost	• $350K	
Challenges	• Kentucky statutes • Training	• User buy-in
Basis of Estimate	• Labor and travel costs for application development and test • Assumes server and space available • Does not include materials or maintenance • Assumes day 1 forward approach	

4.3.8   Public Safety Wireless Implementation

This task consists of a statewide implementation of a comprehensive wireless network. The full scope of the activities is unknown at this time and will not be determined until the Public Safety Wireless Study is completed.

Duration	• TBD
Benefits	*Public Safety Officials* • Seamless data connectivity for query and response into UCJIS databases
Dependency	• Public Safety Wireless study
Cost	• TBD (costs and funding categories depend heavily on private versus government ownership)
Challenges	• Evolving standards
Basis of Estimate	• N/A

4.3.9   Public Safety Wired Implementation

This task consists of a Commonwealth-wide rollout of the enhancements to the Kentucky Information Highway. The full scope of the activities is unknown at this time and will not be determined until the current KIH study is complete.

Duration	• TBD
Benefits	*All UCJIS Agencies as well as the Citizens of Kentucky* • Information access sharing that is unavailable today
Dependency	• KIH Study
Cost	• TBD
Challenges	• Evolving technology
Basis of Estimate	• N/A

4.3.10   Commonwealth-Wide Case Management System Pilot

Commonwealth's and County Attorneys presently do not have a standard method for case management. As a "stop-gap" solution, in Year 1, a Standard Support Application for Commonwealth's and County Attorneys was identified. After evaluating the data gathered from usage of this "stop-gap" solution, a case management system pilot program should be initiated. The project would entail streamlined requirements development, vendor and package selection, custom integration and implementation, and change management. This pilot project will allow the Commonwealth to examine alternatives and continue to work out process and technology issues. It is recommended that the chosen locations be diverse in size in terms of staff and caseload, with one location being "small" and the other location "medium to large." This will enable the Commonwealth to tailor requirements due to differences in processes and business rules based on location size.

Duration	• 8 months
Benefits	*UPS* • Validate case management process and identify improvements • Positions for Commonwealth-wide implementation • Increase the timeliness of distribution of information • Facilitate information sharing within the office
Dependency	• Standard Support Application for Commonwealth's and County Attorneys
Cost	• $425K
Challenges	• Training • Lack of standard processes within each office • Lack of LAN capabilities within the offices and limited KIH connectivity • Complacency with "stop-gap" application and not moving forward with full case management system project
Basis of Estimate	• Consultant estimate based on similar sized projects

Exhibit 4-2 shows the impact of Year 2 projects on the UCJIS architecture.
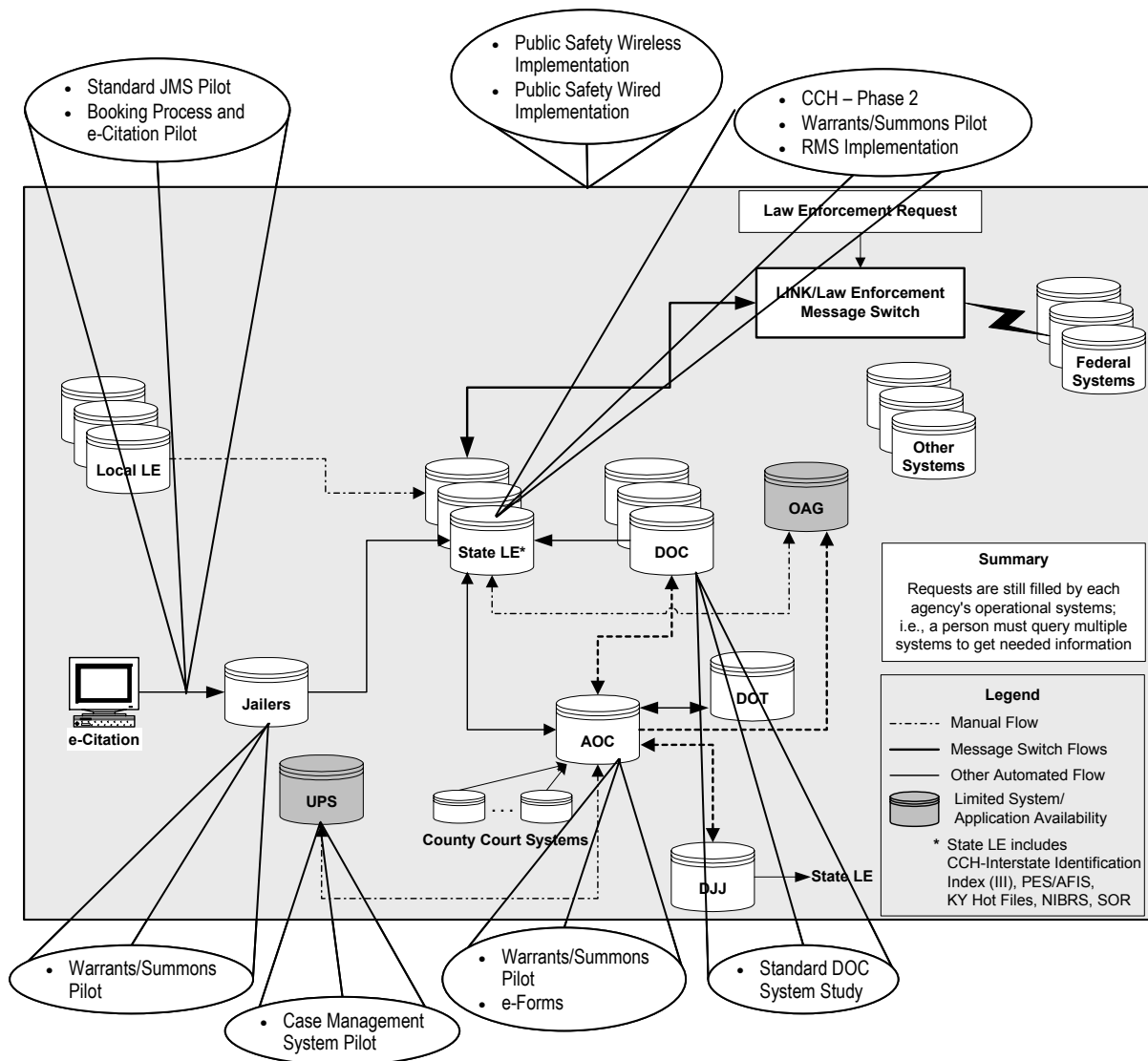
Exhibit 4-2: Year 2 Architecture

4.4   Year 3 Projects

Year 3 may be called the year of implementation. During this period, pilot projects come to fruition and their final evaluation and rollout begins. Specifically, projects supporting the law enforcement officer and offender management systems begin to take shape. It is during this year that some of the most important aspects of the UCJIS project begin to materialize.

4.4.1   Computerized Criminal History – Phase 3

This project will consist of the non-critical data conversion, non-fingerprint-supported arrests, and various reports. It eliminates manual work for processing court orders, supports investigative searches on non-fingerprint supported records, and allows KSP to follow up with agencies not fingerprinting in the prescribed manner.

Duration	• Approximately 11 months	
Benefits	*KSP* • Ability to follow-up with agencies not providing fingerprint cards	*KSP, AOC* • Increased automation of system interfaces which leads to reallocation of staff to more important tasks
Dependency	• CCH Phases 1 and 2	
Cost	• $1.7M	
Challenges	• Availability of Commonwealth resources for definition of requirements, participation in data conversion, and training • Timely agreement on ICDs among interfacing agencies	
Basis of Estimate	• Bottoms-up estimate based on similar projects in other states; see CHPP for additional information	

4.4.2   Standard JMS Implementation

This project will complete the JMS solution first begun with the Jails Management System RFI project and continued with the JMS Pilot begun in Year 2. Once the JMS Pilot is complete and lessons learned have been documented, the Project Team recommends that the Commonwealth proceed with full-scale rollout of the JMS.

This project would include the following major activities:

- *Procurement of the JMS* – The system the Commonwealth buys will have to include the software (at both the client and server levels), enterprise and workstation licenses, maintenance, warranties, system documentation, training, and user support.

- *Installation* – The JMS will have to be installed based upon a deployment schedule negotiated between the Commonwealth and the selected vendor.

- *Training* – Commonwealth users of the JMS will have to be trained in its use. Various training approaches could be used (e.g., formal classroom, CD-based, on-line, or train-the-trainer). Whatever method is used, the training schedule will have to mirror the installation schedule.

- *User Support* – Some level of user support such as help desk, on-line, and the like will be necessary during and immediately following installation of the JMS. The Commonwealth will need to purchase long-term support.

- *Business Process Improvement* – Installing a sophisticated JMS will necessarily involve some changes to the current way of doing business. These changes will have to be documented, validated, and implemented in a participatory manner.

Duration	• 24 months
Benefits	*Jailers* • Standardized system allows for more efficient use of Commonwealth resources • Long-term training costs are reduced as personnel move within the Commonwealth because the same system will be in use throughout the Commonwealth • Long-term cost savings
Dependency	• JMS RFI and JMS Pilot
Cost	• $6M
Challenges	• Deployment schedule must be flexible enough to accommodate changing priorities • Making people available for training • Resistance to change
Basis of Estimate	• 83 jails, 10 software licenses per jail, installation services, data conversion, maintenance agreements, and training • Assumes standardized approach as developed at the pilot location to expedite the roll out • Does not include annual maintenance costs beyond the first year

4.4.3 Booking Process and e-Citation Implementation

This project will complete the Booking Process and e-Citation solution first begun with the Booking White Paper and continued with the JMS and Booking Pilots begun in Year 2. Once the pilots are complete and lessons learned have been documented, the project team recommends that the Commonwealth proceed with full-scale rollout of the Booking Process in concert with the JMS implementation.

This project would include the following major activities:

- *Training* – Commonwealth users on the new Booking and e-Citation processes; various training approaches could be used (e.g., formal classroom, CD-based, on-line, or train-the-trainer). Whatever method is used, the training schedule will have to mirror the JMS installation and training schedule.

- *Business Process Improvement* – Introducing a new process will necessarily involve changes to the current way of doing business. These changes will have to be documented, validated, and implemented.

Duration	• 24 months
Benefits	*Jailers* • Standardized process allows for more efficient use of Commonwealth resources • Long-term training costs are reduced as personnel move within the Commonwealth because the same system will be in use throughout the Commonwealth • Long-term cost savings
Dependency	• JMS RFI, JMS and Booking Process Pilot and JMS Implementation
Cost	• $85K
Challenges	• Deployment schedule must be flexible enough to accommodate changing priorities • Making people available for training • Resistance to change
Basis of Estimate	• Process training: 8 hours per jail, 83 jails

4.4.4 CAD Implementation

The purpose of this project is to select and install a COTS CAD. To reduce integration activities it is desirable that the CAD be part of a Public Safety Suite including a RMS and mobile workstation capability. Procurement of the CAD is best done by competing this effort as a "priced option" under the RMS competition.

A CAD system is an extremely important tool for protecting the safety of officers and providing the most effective service to the citizens. When the CAD system is linked with an RMS, a much more efficient means of organizing, distributing, and capturing incident information is established since incident information can be automatically forwarded to the RMS. The CAD system must be a high performance system that is responsive to its primary mission.

A CAD provides law enforcement personnel with an automated means of call prioritization, capture, and distribution of call related data. Upon assignment to a call, incident data travels to the officer via wireless data communications and is presented on a mobile workstation. Should a wireless data connection or mobile workstation not exist, information would be transmitted via voice by the dispatcher in the communications center. CAD systems typically also maintain a comprehensive call history file that indicates the locations where prior incidents have occurred. Important officer safety and public service information is stored in association with these locations in order to serve the mission critical, time-critical needs for this data. For this reason, CAD systems often duplicate data that is maintained on the RMS system.

Duration	• 16 months	
Benefits	*KSP* • Increased officer safety • More effective use of patrol resources	• Increased service to the community • Higher accountability
Dependency	• Wireless data network implementation • RMS Selection	
Cost	• $6M	
Challenges	• Training • Configuration • Network connectivity	
Basis of Estimate	• Consultant estimate based on similar sized projects • Software licenses, installation services, data conversion and training • No costs for hardware or site preparation are included	

4.4.5 Mobile Workstation Phase 1

The purpose of this project is to select and install a COTS mobile workstation software package. To reduce integration activities it is desirable that the mobile workstation software be part of a Public Safety Suite includes an RMS and CAD. Procurement of the mobile workstation is best done by competing this effort as a "priced option" under the RMS competition.

Mobile workstations are quickly becoming a standard part of a police cruiser's support equipment. Linked through a wireless data communications infrastructure, the mobile workstation units become the officer's communications link to their dispatch/communication center, and other information services such as NCIC/LINK and NLETS. Not replacing the radio, the mobile computing unit enhances and expedites information to the officer in a cruiser. Even today, hand held units, such as the RIM pager and palm pilots, can provide similar services to the patrolling officer not in a cruiser utilizing public wireless data infrastructure.

Linked directly to the CAD and RMS system, as well as to the overall encompassing UCJIS infrastructure, the officer will have the ability to search and obtain Commonwealth-wide data and national data relevant to any incident, vehicle, or person. Mobile units would be implemented in two phases. The first phase would be the implementation of the mobile technology link to CAD and RMS as well as basic reporting. The second phase would be to provide wireless mobile report entry capabilities via the mobile units. Future functionality associated with mobile units would provide for the capture of video and digital GPS information directly into the mobile unit and the capture and creation of the e-citation data and forms for electronic transmission into the JMS and UCJIS repository.

Duration	• 24 months
Benefits	*KSP, Local Law Enforcement* • Enhanced safety for law enforcement officials • Enhanced information access
Dependency	• Wireless data infrastructure • Mobile Workstation devices
Cost	• $3M
Challenges	• Requires process reengineering • Seamless wireless interconnectivity • Training
Basis of Estimate	• Consultant estimate based on similar sized projects • Software licenses, installation services and training • Does not include equipment cost • Cost based on focused implementation with KSP. Does not take into account full regionalization and use by all law enforcement. Estimate for this full regionalization and use would be based on KSP-ASP white paper.

4.4.6   Standard DOC System Pilot

This project would be a follow-on to the Standard DOC System Study initiated in Year 2. Once the feasibility and cost effectiveness of the DOC system has been demonstrated in the study, the next logical step would be to initiate a pilot project and install the DOC system at a single site to test and evaluate the system. However, if multiple vendors offered competing systems, the Commonwealth might choose to run two or more parallel pilots at different sites. This would effectively be a "fly-off" of competing systems, and the Commonwealth would have the benefit of several sets of lessons learned upon which to base its decision regarding a Commonwealth-wide deployment.

Duration	• 6 months
Benefits	*DOC* • Study findings and recommendations are validated • Lessons learned decrease cost and risk of full-scale implementation • Depending upon solutions offered, may benefit jails as well
Dependency	• Standard DOC System Study
Cost	• $1.75M
Challenges	• Buy-in for a standard system by all corrections facilities • Data conversion from legacy systems
Basis of Estimate	• Standard JMS Pilot plus factor for complexity

4.4.7   Warrants/Summons Implementation

This task represents the full rollout of the Warrants/Summons Pilot to all counties. The project team recommends that as the Commonwealth-wide infrastructure is implemented, warrant and summons databases be migrated to a central database allowing warrant and summons searches across all counties. Although there are other options, such as decentralized databases with pointers, considering the mission criticality of the warrants and summons access, as well as cost and performance, this centralized database approach is recommended. However, this approach and other options should be evaluated during the detailed project planning.

This project would include the following major activities:

- *Training* – Commonwealth users will need to be trained on the new warrants/summons processes. Various training approaches could be used (e.g., formal classroom, CD-based, on-line, or train-the-trainer). Whatever method is used, the training schedule will have to mirror the installation schedule

- *Business Process Improvement* – Introducing a new process will necessarily involve changes to the current way of doing business; these changes will have to be documented, validated, and implemented

Duration	• 12 months
Benefits	*Jailers, KSP, AOC, Local Law Enforcement, Clerks* • Central repository for all active warrants
Dependency	• Warrants/Summons Pilot
Cost	• $500K
Challenges	• Agency cooperation • Training • Managing currency of data
Basis of Estimate	• LINK based solution based on existing architecture; reuse KSP warrants server • Access terminal hardware not included • Limited on site training

4.4.8   Commonwealth-Wide Case Management System Implementation

This task represents the full rollout of the Case Management System to all counties. As the Commonwealth-wide infrastructure is implemented, connectivity to AOC, KSP, and other agencies as needed should be added to facilitate information sharing and reduce the time to process a case.

This project would include the following major activities:

- *Training* – Commonwealth users will need to be trained on the new warrants/summons processes. Various training approaches could be used (e.g., formal classroom, CD-based, on-line, or train-the-trainer). Whatever method is used, the training schedule will have to mirror the installation schedule

- *Business Process Improvement* – Introducing a new process will necessarily involve changes to the current way of doing business; these changes will have to be documented, validated, and implemented

Duration	• 12 months
Benefits	*UPS* • Increase the timeliness of distribution of information • Facilitate information sharing within the office • Facilitate information sharing with other agencies
Dependency	• Commonwealth-Wide Case Management System Pilot
Cost	• $500K
Challenges	• Training • Agency cooperation • Lack of LAN capabilities within the offices and limited KIH connectivity
Basis of Estimate	• Consultant estimate based on similar sized projects

Exhibit 4-3 shows the impact of Year 3 projects on the UCJIS architecture.
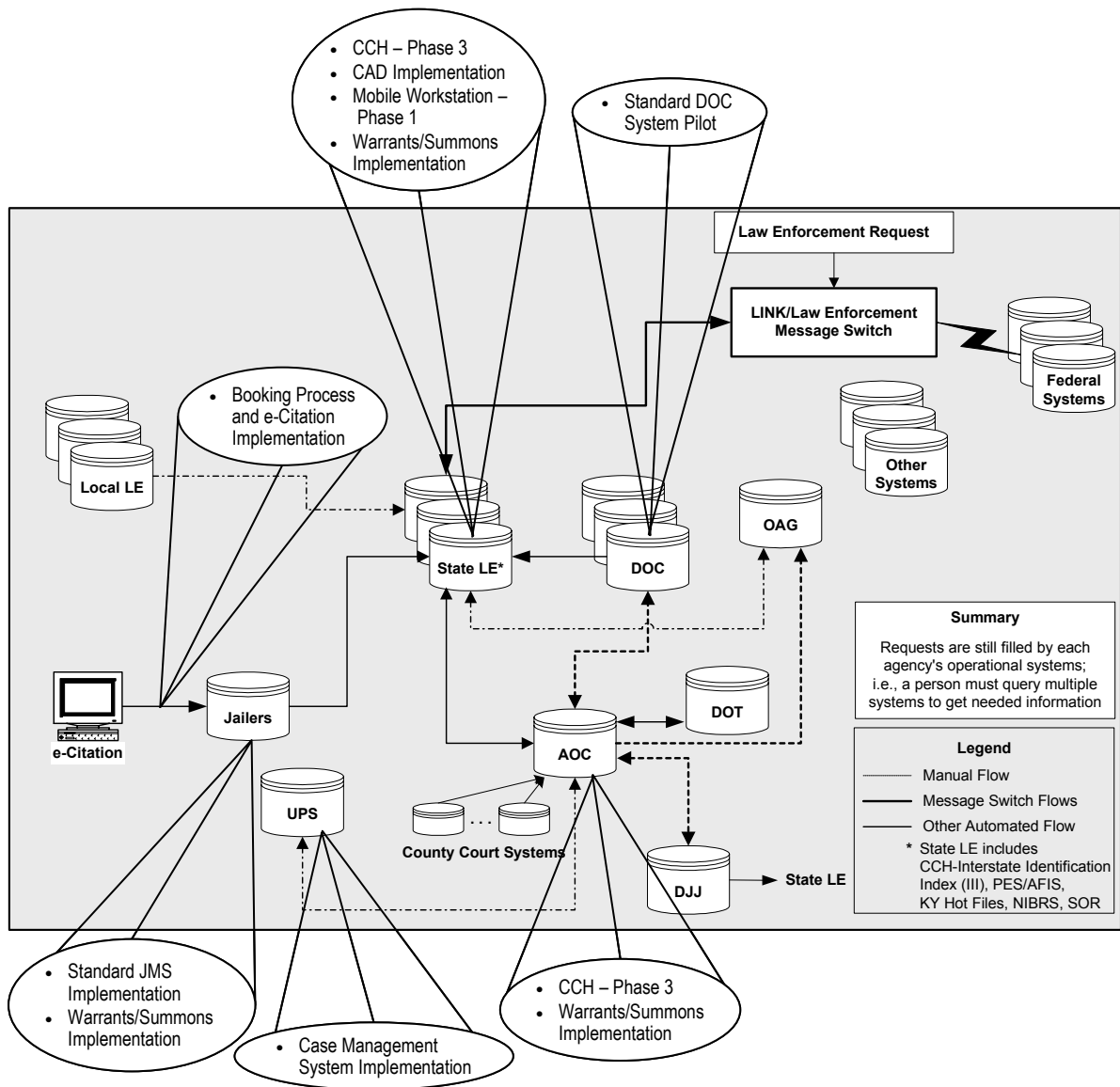
Exhibit 4-3: Year 3 Architecture

4.5   Year 4 Projects

In Year 4, the focus is on developing the UCJIS infrastructure and finalizing projects started in Year 3. During this period, UCJIS begins to take shape as mechanisms are put into place to manage the sharing of information within the criminal justice system.

4.5.1   Computerized Criminal History – Phase 4

With National Fingerprint File (NFF) participation, Kentucky will take full ownership and responsibility for the dissemination of its records.

Duration	• 2 months	
Benefits	*KSP* • Increased control of record dissemination	*KSP, Local Law Enforcement* • More current information distributed on rap sheets
Dependency	• Prior CCH Phases	
Cost	• $177K	
Challenges	• NFF Certification	• Training
Basis of Estimate	• Bottoms-up estimate based on experience with NFF at Federal and state levels; see CHPP for additional information	

4.5.2   Common Access (Middleware)

The full hybrid integration architecture selected as the UCJIS Information Technology (IT) solution for Kentucky, contains two principle components: a common access system to expedite information flow among systems, and a common data repository to access and temporarily store data for tactical use. The concept of the data exchange architecture is discussed in depth in the Architecture section of the UCJIS Strategic Plan. The basis is that each instance of governmental information sharing involves two sharing entities. The holder entity is always a governmental unit; the receiver may be either a governmental entity or a private entity (e.g., private attorney, day care center or private citizen). The holder must be willing, able, and entitled to provide the information. The receiver must demonstrate a need for the information, be able to receive it, and agree to abide by usage rules set by the holder. No holder of information is forced to share. It is not mandatory that this project be delayed until Year 4. However, earlier implementation will depend on application, common repository, and wired infrastructure availability.

Duration	• 24 months, subject to further analysis and scope definition
Benefits	*All* • Flexibility; individual justice entities utilize the software best suited for their needs • Immediate, lowest-cost participation; individual agencies do not have to acquire new systems to participate • Maximum immediate benefit; document exchange methodology immediately addresses the most severe problems associated with system integration such as duplicate data entry, reduced data quality and reliability, access to critical data already available on other systems • Roadmap for the future
Dependency	• Wired Infrastructure
Cost	• $3.5M
Challenges	• Obtaining organizational agreement on the data that can be exchanged • Format for exchange • Change management • Architecture • Funding
Basis of Estimate	• Consultant estimate based on similar sized projects

4.5.3   Common Repository

A common repository in this sense is a large separate (from operational data storage capability) data storage component that can quickly and efficiently receive data from operational storage systems and use that data to answer complex questions, ad hoc queries or generate reports. It is a large electronic storage area structured to store data in different formats and allow conversion to a consistent format for use by a variety of users.

Duration	• 24 months, subject to further analysis and scope definition
Benefits	*All* • A data warehouse removes the burden of disparate data access from the user application by acting as a single repository for information from many applications
Dependency	• Wired infrastructure
Cost	• $4.0M
Challenges	• Obtaining organizational agreement on the data that can be warehoused • Common terminology • Architecture
Basis of Estimate	• Consultant estimate based on similar sized projects

4.5.4 Computerized Criminal History – Phase 5

This phase addresses functions that provide value in the long run but at a lesser value as compared to functions in earlier CCH Phases. Functions in this phase are also more likely to change or be reevaluated over time due to the evolution of the UCJIS implementation and/or legal issues (e.g., electronic signature). This phase will include electronic interfaces with DOC for inmate release and with AOC for court orders, mugshots, eXtensible Markup Language (XML)-based RAP Sheets, record deceasing, and disposition purging (*In Rey Farley*).

Duration	• 9 months	
Benefits	*KSP, AOC, DOC* • Elimination of multiple data entry of same data	*KSP, Local Law Enforcement* • Track status of deceased persons • Improved identification tools
Dependency	• Prior CCH Phases	
Cost	• $1.2M	
Challenges	• Cross agency agreement on ICDs • Legal/statutory issues	• Training
Basis of Estimate	• Bottoms up estimate; refer to CHPP for additional information	

4.5.5 Mobile Workstation Phase 2

The first phase implemented the mobile technology link to CAD and RMS as well as basic reporting. This phase adds full wireless mobile report entry capabilities.

Duration	• 12 months
Benefits	*KSP* • Enhanced safety for law enforcement officials • Enhanced information collection • e-Citation linkages
Dependency	• Wireless data Infrastructure
Cost	• $50K
Challenges	• Officer training and cultural change in report creation
Basis of Estimate	• Classroom Training

4.5.6 Standard DOC System Implementation

This project is the third, and last, in a series of projects to acquire a standard system for the Department of Corrections. Once the DOC System Pilot project is complete and the lessons learned documented, the Project Team recommends that the Commonwealth proceed with full-scale rollout.

The Standard DOC System Implementation Project will include the following major activities:

- *Procurement of the DOC System* – The Commonwealth will have to procure either a COTS system or Contractor-built customized system. The system will include software at the client and server levels, enterprise and workstation licenses, maintenance, warranties, system documentation, training, and user support.

- *Installation* – The DOC system will have to be installed based upon a deployment schedule approved by the Commonwealth.

- *Training* – Commonwealth users of the system will have to be trained in its use. Various training approaches could be used (e.g., formal classroom, CD-based, on-line, or train-the-trainer). Whatever method is used, the training schedule will have to mirror the installation schedule.

- *User Support* – Some level of user support such as help desk, on-line, and the like will be necessary during and immediately following installation of the system. The Commonwealth will need to purchase long-term support.

- *Business Process Improvement* – Installing a sophisticated system will necessarily involve some changes to the current way of doing business. These changes will have to be documented, validated, and implemented in a non-threatening way.

Duration	• 18 months
Benefits	*DOC* • Standardized system allows for more efficient use of Commonwealth resources • Long-term training costs are reduced as personnel move within the Commonwealth because the same system will be in use throughout the Commonwealth • Long-term cost savings • Depending upon solutions offered, may benefit jails as well
Dependency	• Standard DOC System Study • Standard DOC System Pilot
Cost	• $9M
Challenges	• Deployment schedule must be flexible enough to accommodate changing priorities • Making people available for training • Resistance to change
Basis of Estimate	• JMS Implementation plus factor for complexity

Exhibit 4-4 shows the impact of Year 4 projects on the UCJIS architecture.
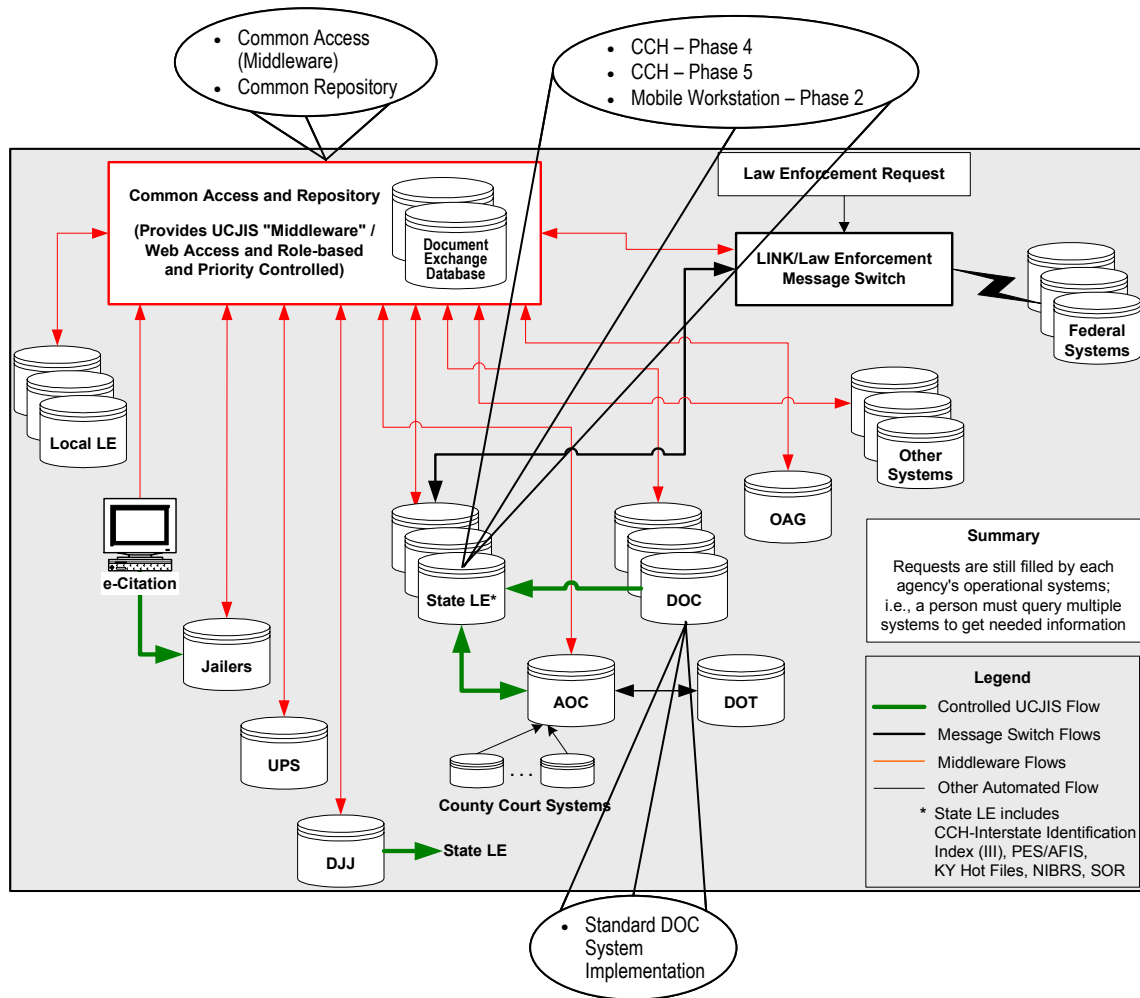
Exhibit 4-4: Year 4 Architecture

5.0 ASSUMPTIONS

This section discusses the key assumptions used by the Project Team in the development of this plan. These assumptions are associated with 1) building a system from scratch versus purchasing and tailoring a COTS system, and 2) funding requirements. These assumptions are discussed in detail in the following paragraphs.

5.1 Build versus Buy

During the course of the UCJIS effort, the Commonwealth will be confronted with the build-versus-buy decision. The decision boils down to this: (1) build a custom system that meets all the customer requirements, or (2) buy a COTS system that meets the vast majority of customer requirements and that can possibly be tailored to meet the remaining requirements.

In reviewing a COTS application, the Commonwealth must consider how they intend to handle interfaces and maintain the system. Even with the best solution, there will need to be interfaces between the COTS application and other applications. The complexity of the interfaces should be an evaluation criterion on whether to buy versus build, or in the case of a decision to buy, which COTS application to buy. If the Commonwealth intends to have the vendor maintain the product, a wide variety of COTS applications may be available. However, if the Commonwealth decides to perform their own maintenance, only a small portion of the COTS vendors currently offers that option. In many cases, COTS application has been refined to take advantage of the best business practices. Although initially a COTS application may not appear to meet the Commonwealth's business needs, the Commonwealth should still take the opportunity to evaluate the COTS application in light of possible business process reengineering.

There are many factors that must be considered in determining whether to build a custom system or purchase a COTS product, but these factors can generally be aggregated into three: cost, time, and risk. Any one of these factors can drive the decision, but typically, it is a combination of the three that proves decisive.

- *Cost* – Building fully integrated software applications that meet Commonwealth needs would require software engineering and coding, testing at the system, user, and integration levels, documentation production, training, and deployment. The cost to do so would likely be prohibitive. Our experience shows that where COTS products exist it is generally much cheaper to purchase the COTS product and tailor it to meet specific customer requirements than to build a custom system from the ground up.

- *Time* – Time is also a consideration. The time it would take to build a custom application for the Commonwealth would depend largely on how many people were assigned to the project. However, as a practical matter, it would take far longer to design, build, test, and install a custom application than it would be to purchase and install a proven COTS product. Purchasing a COTS product would greatly reduce the time it would take to have a fully integrated system up and running.

- *Risk* – There are numerous risks associated with IT procurements. As a rule, it is more risky to design and build a custom software application than to purchase a COTS product that satisfies the same requirements. If the Commonwealth were to purchase a COTS product from an established vendor it would avoid the technical risks associated with development of a new product. There would still be some schedule, performance, and cost risks; but these would be addressed in the terms and conditions of the purchase contract and the vendor's warranties for its products and services.

Accordingly, the Project Team is building its plans on the assumption that the Commonwealth will make maximum use of COTS products, when possible.

5.2 Funding Requirements

Exhibit 5-1 shows aggregated funding requirements for the projects. This exhibit assumes that even though a project might span more than one year, its full costs are shown only in the year that the project is to start. It is important that the funding be available at the appropriate time if UCJIS is to proceed smoothly. This exhibit also assumes that the Commonwealth would prefer to fund a contract from the start. Hardware costs are not generally included in these costs, except where noted, because it is believed that the Commonwealth can get better prices under state contracts than from application providers. In certain areas, it may be advantageous for the Commonwealth to have a contractor provide hardware and assume responsibility for its availability through a service level agreement.

Exhibit 5-1: Funding Requirements by Year

Year 1	Year 2[3]	Year 3	Year 4
$7.2M	$16.2M	$19.5M	$8.9M

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[3] Costs for the Year 2 projects, Public Safety Wireless Implementation and Public Safety Wired Implementation, are dependent on the Year 1 projects, Public Safety Wireless Study and Public Safety Wired Study, respectively, and, thus, have not been included in the total funding requirements for Year 2.

6.0   SCHEDULE

In developing the project schedule, the Project Team took a number of items into consideration. The Team used the "as-is" environment to assess the current state of readiness existing within each of the UCJIS agencies. This resulted in the identification of agency-specific projects where the greatest need for applications and technology enhancements existed. The Team then determined whether the agency was a "contributor" or "consumer" of UCJIS data. That is, some agencies have critical roles affecting the gathering, validation, and dissemination of UCJIS information; while other agencies primarily use the data in the execution of their UCJIS responsibilities. Finally, the Project Team took into account the availability of staffing and capital funding which directly influenced the time phasing of the projects.

This process produced the list of projects described in Section 4.0 and summarized in the Microsoft Project schedule in **Exhibit 6-1**. This schedule groups the projects by year, shows the approximate duration, and the predecessors for each project. A project may be started earlier than the projected year. However, the full benefits of the project may not be realized if the supporting infrastructure is not available. It is critical that infrastructure projects (wireless/wired network, common access, and common control) begin as soon as possible. This will enhance the effectiveness of the pilots that are proposed. Projects identified in ***bold-italics*** preceded by ****** are critical and must be implemented to realize the UCJIS Vision and accomplish the UCJIS Strategic Goals. Failure to start these projects in the year projected will likely delay achievement of the strategic objectives of the UCJIS architecture.

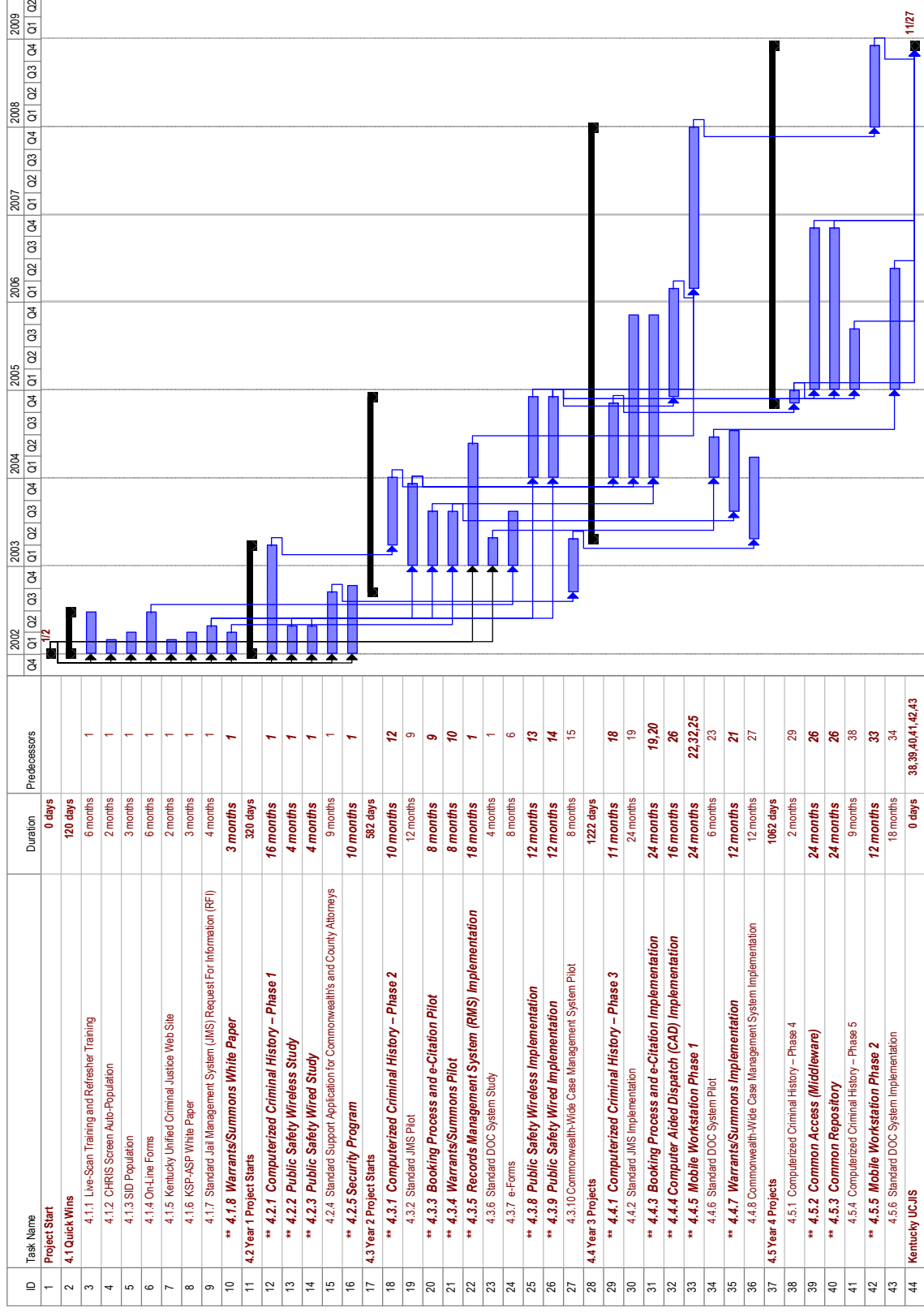| ID	Task Name	Duration	Predecessors
1	Project Start	0 days	
2	4.1 Quick Wins	120 days	
3	4.1.1 Live-Scan Training and Refresher Training	6 months	1
4	4.1.2 CHRIS Screen Auto-Population	2 months	1
5	4.1.3 SID Population	3 months	1
6	4.1.4 On-Line Forms	6 months	1
7	4.1.5 Kentucky Unified Criminal Justice Web Site	2 months	1
8	4.1.6 KSP-ASP White Paper	3 months	1
9	4.1.7 Standard Jail Management System (JMS) Request For Information (RFI)	4 months	1
10	** 4.1.8 Warrants/Summons White Paper	3 months	1
11	4.2 Year 1 Project Starts	320 days	
12	** 4.2.1 Computerized Criminal History – Phase 1	16 months	1
13	** 4.2.2 Public Safety Wireless Study	4 months	1
14	** 4.2.3 Public Safety Wired Study	4 months	1
15	4.2.4 Standard Support Application for Commonwealth's and County Attorneys	9 months	1
16	** 4.2.5 Security Program	10 months	1
17	4.3 Year 2 Project Starts	582 days	
18	** 4.3.1 Computerized Criminal History – Phase 2	10 months	12
19	4.3.2 Standard JMS Pilot	12 months	9
20	** 4.3.3 Booking Process and e-Citation Pilot	8 months	9
21	** 4.3.4 Warrants/Summons Pilot	8 months	10
22	** 4.3.5 Records Management System (RMS) Implementation	18 months	1
23	4.3.6 Standard DOC System Study	4 months	1
24	4.3.7 e-Forms	8 months	6
25	** 4.3.8 Public Safety Wireless Implementation	12 months	13
26	** 4.3.9 Public Safety Wired Implementation	12 months	14
27	4.3.10 Commonwealth-Wide Case Management System Pilot	8 months	15
28	4.4 Year 3 Projects	1222 days	
29	** 4.4.1 Computerized Criminal History – Phase 3	11 months	18
30	4.4.2 Standard JMS Implementation	24 months	19
31	** 4.4.3 Booking Process and e-Citation Implementation	24 months	19,20
32	** 4.4.4 Computer Aided Dispatch (CAD) Implementation	16 months	26
33	** 4.4.5 Mobile Workstation Phase 1	24 months	22,32,25
34	4.4.6 Standard DOC System Pilot	6 months	23
35	** 4.4.7 Warrants/Summons Implementation	12 months	21
36	4.4.8 Commonwealth-Wide Case Management System Implementation	12 months	27
37	4.5 Year 4 Projects	1062 days	
38	4.5.1 Computerized Criminal History – Phase 4	2 months	29
39	** 4.5.2 Common Access (Middleware)	24 months	26
40	** 4.5.3 Common Repository	24 months	26
41	4.5.4 Computerized Criminal History – Phase 5	9 months	38
42	** 4.5.5 Mobile Workstation Phase 2	12 months	33
43	4.5.6 Standard DOC System Implementation	18 months	34
44	Kentucky UCJIS	0 days	38,39,40,41,42,43

Exhibit 6-1: Schedule for the UCJIS Implementation Plan Individual Projects

7.0 CONCLUSION

This Implementation Plan is one of a continuum of planning and implementation documents developed to help put in place an effective, efficient Unified Criminal Justice System for the Commonwealth. It begins the planning phase for a successful UCJIS effort that will benefit the key agencies enrolled in the UCJIS project as well as many others. Eventually, it will encompass agencies such as victim's advocates, Department of Transportation, Cabinet for Families and Children, and other indirect UCJIS agencies.

A significant investment of Commonwealth time and money has been made to support the overall planning process. Interviews, visitations, and information gathering meetings have been held throughout the Commonwealth to build the best UCJIS plan possible. This process, however, is only as beneficial as the management infrastructure allows it to be. No portion of the present criminal justice system is left unaffected significantly by this plan. Changes, and in some cases, major changes to the way business is presently conducted must be made. Each agency is dependent upon the others to make this plan work. It cannot be overemphasized that the governance structure put in place to support UCJIS will be the deciding factor in its success or failure. The UCJIS program must be provided the funding and authority to make the plan a reality.

This document was prepared under the conditions that exist in the Commonwealth today. These conditions may vary over time. As such, this plan, along with the UCJIS Strategic Plan, needs to be revisited periodically, with the initial reevaluation occurring mid-2005.

This high level plan provides the roadmap for implementing the Strategic Plan. It provides a course of action specifically designed to accomplish the Strategic Goals. Starting with the current environment as a baseline, more than 30 phased projects are identified along with associated financial and budgeting requirements. Projects range from quick wins to more complex, phased endeavors. Their estimated cost and duration are included to provide a budgeting base. It includes assumptions made by the Project Team regarding funding availability and a build versus buy discussion on equipment/software procurement. Using this Implementation Plan as a guide, working through an individual project planning process, a well-led, focused team effort will both accomplish the Strategic Plan and set the Commonwealth apart as a leader in the field of Criminal Justice Information Systems. The UCJIS Vision, first set down in 1998, will be achieved.

Appendix A
Acronyms and Abbreviations

AFIS ----------- Automated Fingerprint Identification System

AOC------------ Administrative Office of the Courts

ASP------------- Application Service Provider

BPR ------------ business process reengineering

C00 ------------- Document change number

CAD------------ Computer Aided Dispatch

CCH------------ Computerized Criminal History

CD -------------- Compact Disk

CHPP ---------- Criminal History Project Plan

CHRIS--------- Criminal History Records Information System

COTS ---------- Commercial-Off-The-Shelf

DBMS---------- Database Management System

DJJ ------------- Department of Juvenile Justice

DOC------------ Department of Corrections

DOT------------ Department of Transportation

DPP ------------ Department of Parole and Probation

e-citation ------ Electronic citation

e-form---------- Electronic form

e-mail ---------- Electronic mail

FAQ------------ Frequently Asked Question

FFP------------- Firm Fixed Price

GOT------------ Governor's Office for Technology

GUI------------- Graphical User Interface

IAFIS ---------- Integrated Automated Fingerprint Identification System

ICD------------- Interface Control Document

IDMS ---------- Intelligent Document Management Solutions, Inc.

III---------------- Interstate Identification Index

IPT ------------- Integrated Project Team

ISP-------------- Internet Service Provider

IT --------------- Information Technology

JMS ------------ Jail Management System

JORI ----------- Juvenile Offender Resource Information

KB -------------- Kilobyte

KIH ------------ Kentucky Information Highway

KIMS ---------- Kentucky Inmate Management System

KOOL --------- Kentucky Offender Online Lookup

KSP ------------ Kentucky State Police

KY -------------- Kentucky

LAN ------------ Local Area Network

LE -------------- Law Enforcement

LEMS ---------- Law Enforcement Management Systems

LINK ----------- Law Enforcement Information Network of Kentucky

MB ------------- Megabyte

MOU ----------- Memorandum of Understanding

MPLS ---------- Multi-Protocol Label Switching

NCIC ----------- National Crime Information Center

NFF ------------ National Fingerprint File

NIBRS --------- National Incident-Based Reporting System

NLETS -------- National Law Enforcement Telecommunications System

OAG ----------- Office of the Attorney General

ORION -------- Offender Records Information and Operations Network

PAC ------------ Prosecutors Advisory Council

PC -------------- Personal Computer

PDF ------------ Portable Document Format

PES ------------- Printrak Enterprise Services

PPCMS -------- Probation Parole Case Management System

PwC ------------ PricewaterhouseCoopers LLP

QoS ------------- Quality of Service

R00 ------------- Document revision number

RAM ----------- Risk Assessment Matrix

RDBMS ------- Relational Database Management System

RFI ------------- Request for Information

RLN ------------ Resource Loaded Network

RMS ------------ Records Management System

SAIC ----------- Science Applications International Corporation

SAS ------------- Strategic Alliance Services

SID ------------- State Identification Number

SOMS ---------- Sheriffs Office Maintenance System

SOR ------------ Sexual Offender Registry

SOW ----------- Statement of Work

SQL ------------ Structured Query Language

TBD ------------ To Be Determined

UCJIS---------- Unified Criminal Justice Information System

UCR------------ Uniform Crime Reporting

UPS------------- Unified Prosecutorial System

VPN ------------ Virtual Private Networking

WAN----------- Wide Area Network

WBS------------ Work Breakdown Structure

www------------ world wide web

XML ----------- eXtensible Markup Language